

$$\begin{array}{r} 70 \\ 74 \end{array} \begin{array}{r} 22.8 \\ 7 \\ 15 \\ 195 \\ 180 \\ 375 \end{array}$$

$$\begin{array}{r} 88 \\ 44 \\ 6 \end{array}$$

11
11111
111

44

$$\begin{array}{r} 275 \\ 195 \\ 470 \\ 360 \\ 110 \end{array}$$

$$\begin{array}{r} 10.0582 \\ 1523 \\ 10.2105 \end{array}$$

$$\begin{array}{r} 341 \\ 180 \\ 161 \end{array}$$

$$\begin{array}{r} 1162 \\ 5813 \\ 3 \end{array}$$

$$\begin{array}{r} 237 \\ 180 \\ 57 \end{array}$$

show TTT
rain III
wind #11

$$\begin{array}{r} 47.134 \\ 4656 \frac{2}{3} \end{array}$$

$$\begin{array}{r} 24 \\ 12 \\ 9 \end{array}$$

$$\begin{array}{r} 10 \\ 17 \\ 27 \end{array}$$

$$\begin{array}{r} 9410 \end{array}$$

In both wires

$$20 \text{ meters} = 19 \frac{1}{2}$$

$$40 \quad \quad \quad 39$$

Lower wire

$$40 \text{ meters} = 20$$

$$20 \quad \quad \quad = 10$$

$$10 \quad \quad \quad = 5$$

$$2 \quad \quad \quad = 1$$

Telemeter 30 - between

$$\text{both wires} = 100 \text{ ft}$$

$$60 \text{ ditto} = 200 \text{ ft}$$

$$30 \text{ between lower wires}$$

$$= 200 \text{ ft}$$

$$60 \quad \quad \quad \text{lower wires} =$$

$$400 \text{ ft}$$

$$45 \text{ between lower wires} =$$

$$100 \text{ ft}$$

$$5 \text{ between lower wires} =$$

$$33 \text{ ft } 5 \text{ in}$$

$$10 \text{ do} = 66 \text{ ft } 10 \text{ in}$$

$$\text{or } 20.25 \text{ on telemeter}$$

$$\text{between both wires} = 67.6$$

Oct 24 1891

Am.

Bailey's Δ

A

B

0

180

Rocky Pt.
S 9 1/2 W

41.33.40

221.33.40

41.33.40

221.33.40

✓

41.33.20

221.33.40

Highest Pt. Amaknak S. S.

S 19 W

✓

50.58

230.58.20

Blunt ~~Point~~ Angle of Signal

W. 39 1/4 S 1 foot

Observations from Spit Head

Wahota Δ

0

180

A 2 1/2 E (3 1/2)

North Head

34.15

214.35

A 3 1/2 E

✓

34.15.40

214.35.40

34.15.40

214.36

North end North Bluff

A 50 E

South end in line with Pinnacle

Pinnacle

55.56.20

235.56.20

A 5 1/2 E

55.56

235.56.20

Correction + 10"

" + 40"

" + 40"

Back sight on Priest Rock read

A 50.0 E

B 230.0 S

Cor. - 2' 00"

" 0

" 0

Cor. 0

" - 20"

	A	B
Pinnacle	55.56.20	235.56.20
Bailey's Δ	99.45	279.45.20
S 77 E	99.45.00	279.45.00
	99.44.20	279.44
	"	"

Bailey's	0	180
S 77 E		

Church	80.59	266.58.40
S 10 1/4 W		

Rocky Pt.	97.04	277.04.20
S 20 W	97.04.40	277.04.20
	97.04	277.04
	"	"

Rocky Pt.	0	180
S 20 W		

Round Top	32.24	212.24
S 52 3/4 W	32.24	212.23.40
	32.23.40	212.23.40
	"	"

Round Top	0	180
S 52 1/2 W		

Pulpit Rock	102.44	282.44
N 25 W	102.43	282.43.20
	102.43	282.43.20
	102.43	282.43.20

	A	B
Pinnacle	55.56.20	235.56.20
Cor.	+ 1.20"	
"	= 20"	
"	= 40"	

Cor = 00

" 0
" - 10"
" - 40"

Cor + 20"
" 0
" 0

Cor + 20"
" + 20"
" + 20"
" + 20"

Pulpit Rock 0 180
 A 25 W

Ulahta Δ 28,05.40 208.05
 ✓ 28,04.40 208.05
 28,04 208,04.20

Cor. +20"
 " 0
 " 0

Split Top Mt.
 A 30 1/2 E

Highest Pt. Ulahta K S
 S 27 1/4 W

Center of Signal
 A 57 1/2 W Distance 2 1/2

Weather fine & clear - Ther. 45.
 Return from Spit head to vessel at
 2.30 just as rain comes on -
 29.44.

Wednesday Oct. 25, 71 -

Observations from Δ K

Edge of Bank bearing
 A 34 E from Δ K S

Edge of Bank
 A 13 West Vert. 12° 22'

$$\begin{array}{r} 60 \overline{) 86143 \frac{1}{3}} \\ \underline{60} \\ 260 \\ \underline{240} \\ 200 \\ \underline{180} \end{array} = 286 \frac{1}{3} \text{ in} \\ 286 \text{ ft } 8 \text{ in}$$

86 between both wires

$$\begin{array}{r} 30 \overline{) 71236 \frac{2}{3}} \\ \underline{60} \\ 110 \\ \underline{90} \\ 200 \end{array} = 236 \frac{2}{3} \text{ in} \\ 236.8 \text{ in}$$

ΔA
N 36 1/2 E

A — B
0 180

ΔB
A 19 3/4 W 304.01 124.00.40

ΔC
N 34 1/2 W 289.26 109.25.40

Rick off West Head
A 27 1/2 W

W. Bluff of Amaknak I. North
A 29 1/2 W

A end Chenoa I.
A 41 W

Δ East

Strong wind which
will not admit of much
observation

Morning clear & fine but with
high wind. P.M. cloudy -
29.94 - 45 -

150
124.00.50

55.59.10

179.59.60
109.25.50

070.34.10

By telescope 2 1/2 above line
from bottom - 30) 142.5 (475.5
ladder wires 150

475
2
950 ft

225
210
150
150

Thursday Oct. 26. 1871
 from round hill S of mouth Little bay
 N. E. Head in line with outer edge
 of spit head & two principal bluffs
 or points of middle Amaknak.

Observation from Δ East,

Δ West - by telemeter 97 between
 lower wires.

A $83\frac{3}{4}$ W

30) 97 (323 $\frac{1}{3}$
 90

Hill of Parite.

E 3 A

20 646 $\frac{2}{3}$
 60
 100 646 ft 8 in
 90
 10

Crest of Split Top Mt.

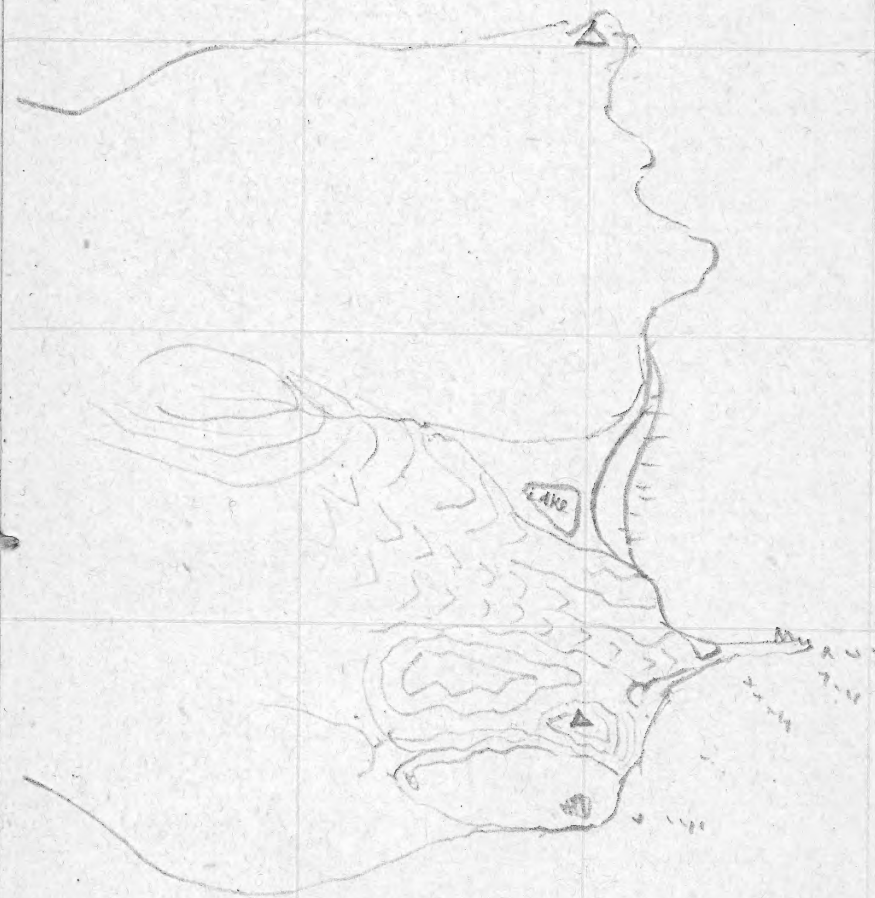
A $32\frac{1}{4}$ E

Δ K 25 above hinge from
 below - lower wires. 15165 1100
 A $56\frac{3}{4}$ E. 1100 ft

Highest Pt. S. Head South Bay
 A $51\frac{1}{2}$ E

Middle Pt. Same Ridge South
 A $60\frac{3}{4}$ E

Highest Pt. S. end of Ridge
 A 71 E.



Pyramid Mt. Highest Pt.
S $31\frac{1}{4}$ E

East Knob, S. of Little I., on Amakhat
S $9\frac{1}{2}$ W

Middle Is. (Highest Pt. Amakhat S.)
S $49\frac{1}{2}$ W

West Is.
S 62 W

ΔI 17 above hinge from
bottom, S. 10' E Lower wires,

Beach High water mark
(S. W. of K) bears N $45\frac{1}{4}$ E

Bluff on N. Side Entrance
N $45\frac{1}{4}$ $45\frac{3}{4}$

First Bluff S E ΔI . Reads
on telemeter 60 above hinge from
below between lower wires,
S $68\frac{1}{2}$ E

Rock (Is.) on N.E. Pt. Amakhat S.
between lower wires corresponds
with hinge & ~~hinge~~ wires S short
of the top. S $34\frac{3}{4}$ E,

$$\begin{array}{r} 30 \overline{) 157} \quad 5-33\frac{1}{2} \\ \underline{150} \\ 70 \\ \underline{60} \\ 100 \end{array}$$

1067 ft-4 in

$$\begin{array}{r} 30 \overline{) 200} \quad 666\frac{2}{3} \\ \underline{180} \\ 200 \\ \underline{180} \\ 200 \\ \underline{180} \\ 20 \end{array}$$

1933 ft-4 in

$$\begin{array}{r} 30 \overline{) 275} \quad 916\frac{2}{3} \\ \underline{270} \\ 50 \\ \underline{30} \\ 200 \\ \underline{180} \\ 20 \end{array}$$

1833.4 in

ΔH 85 above hinge
from bottom between batho wms
S 12 E 750 ft 4 in

ΔC 77 above hinge from
below between batho wms
S 45 W 723 ft 4 in

1 Sedge off Small I. 37 between
batho wms. 125 ft 4 in
S, 13 W

2 Sedge off Small I. (another)
67 between batho wms
S 36 W 223 ft 4 in

3 Eastern Pt Small I (Rocks) 29
between batho wms
S 75 E Vert 8° 06' 93 ft 8 in

4 Rock 36 between batho wms
A 15 1/2 W Vert. 6° 37' 120 ft

4. Pt Small I. 140 between batho
wms A 44 1/2 W 466 ft 8 in

Obs. across I. from preceding 53
between tower wms.
A 17 E Thiolite about 30 ft.
back of beach show line.

30) 225 750 ft 4 in
240
150
250

30) 217
216
70

100
200
123 ft 4 in

30) 37
30
50
100
223 ft 4 in

30) 47
20
70
100

2°
1°

Da 4

30) 29
27
200
180
20

3) 36 120
140 466.8 in
3) 14
12
20
18
20
18

3) 5-3 176 2/3
23
21
20
18

353.4 in

30
283.4 in
width of Small I

Obs. from Δ West

Same Δ as before 112 between boat
wires: probable distance to be added
about 10 ft. $383\text{ ft } 4\text{ in}$
 $N. 54 \frac{1}{2} E$ $87\text{ ft } 4\text{ in}$

Tops of trees on ^{mountain} Middle Mountain
 $N. 2 W$

Rock (Separate from small Δ at
High water) 88 between boat wires
 $N. 1 \frac{1}{2} E$ $293\text{ ft } 4\text{ in}$

ΔD 65 above hinge from
bottom between lower wires.
 $N. \frac{1}{2} E$ $136\text{ ft } 8\text{ in}$

Bluff between D & E 35 above
between lower wires ^{hinge}
About $N. 8 \frac{1}{2} W$ $116\text{ ft } 8\text{ in}$

ΔE 75 above hinge from
below between boat wires
 $N. 51 \frac{1}{4} W$ ~~$1423\text{ ft } 4\text{ in}$~~
 $716\text{ ft } 8\text{ in}$

Rocks at end of track 87
between boat wires above hinge
from below
 $N. 71 W$ $756\text{ ft } 8\text{ in}$

$$\begin{array}{r} 30 \overline{) 112} \quad 373 \frac{1}{3} + 10 = 383\text{ ft } 4\text{ in} \\ \underline{90} \\ 220 \\ \underline{210} \\ 100 \\ \underline{90} \end{array}$$

$$\begin{array}{r} 30 \overline{) 88} \quad 293 \frac{1}{3} \\ \underline{60} \\ 280 \\ \underline{270} \\ 100 \end{array}$$

$$\begin{array}{r} 30 \overline{) 205} \quad 583 \frac{1}{3} \\ \underline{180} \\ 250 \\ \underline{240} \\ 100 \end{array}$$

$$\begin{array}{r} 30 \overline{) 175} \quad 583 \frac{1}{3} \\ \underline{150} \\ 250 \\ \underline{240} \\ 100 \end{array}$$

$$\begin{array}{r} 30 \overline{) 215} \quad 716 \frac{2}{3} \\ \underline{210} \\ 50 \\ \underline{30} \\ 20 \end{array}$$

$$\begin{array}{r} 30 \overline{) 227} \\ \underline{210} \\ 170 \\ \underline{150} \\ 20 \end{array}$$

S. East of Head 22 above
 Jordan curve 1050 ft
 S 46 7/8 N

Δ F 77 above large In below
 below both wings
 S 46 1/2 N 723 ft 4 in

Δ G 202 above large In the
 below both wings
 S 14 1/2 E 606 ft 4 in

Rain comes on and prevents
 further observations
 Ther. 45.5 Bar. 29.784
 Morning obs for wind but clouds
 in P.M. prevent equal altitudes
 being taken. Rain & wind from NW.

Friday Oct 27

Heavy snowstorm all day 29.504
 Ther. 42.5 NW wind

Saturday Oct. 28

Rain & squalls of snow N.W.
 29.872 Ther. 40.

Sunday Oct. 29

High wind with showers of rain. Ther
 42. Bar. 29.888. S.

$$\begin{array}{r} 30 \overline{) 62} \overline{) 540} \\ \underline{150} \\ 170 \\ \underline{120} \end{array}$$

$$\begin{array}{r} 30 \overline{) 217} \overline{) 723} \frac{1}{3} \\ \underline{210} \\ 70 \\ \underline{110} \end{array}$$

$$\begin{array}{r} 30 \overline{) 62} \overline{) 606} \frac{2}{3} \\ \underline{180} \\ 200 \\ \underline{180} \\ 20 \end{array}$$

Oct. 30. Monday —————

Observations from S. Point
Aurora South, A. I.
B

ΔH 0 150
 Yelometer 85. Station fork lines,
 59 71

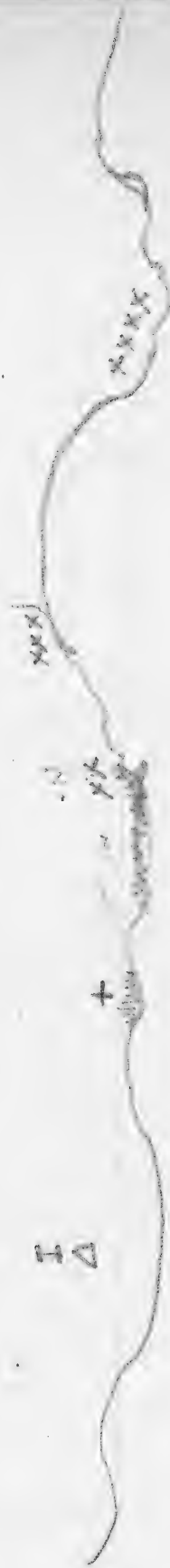
San. West 9.26 187.2540
49 1/2 W

Δ West 0 180
164322

2. I 2600 *Salmon Trout* *Salmo gairdneri*
 at 5000 ft. *Colorado*

1 6 3/4 E 25 3 4 1/2

Highly beautiful XX 235 white
 Lock mine.
 N 83 1/2 E. Com. dip - 20° ?



These way stations were about 10 ft. apart.

ΔK 13
 67.15.20 247.15.40
 17N E.

edge of bank of XXX 15 m between
 lower wires
 577N E. Cor. - 20"

ΔD 24.17.40
~~29.07~~ 204.17.20
 at 25% N

edge of bank of XXX 20 m
 between lower wires
 S 60 E. Cor. - 20"

Δ East 21.44.30 40 21.44
 at 25% N 24.44.40 20 20
 correction + 30?

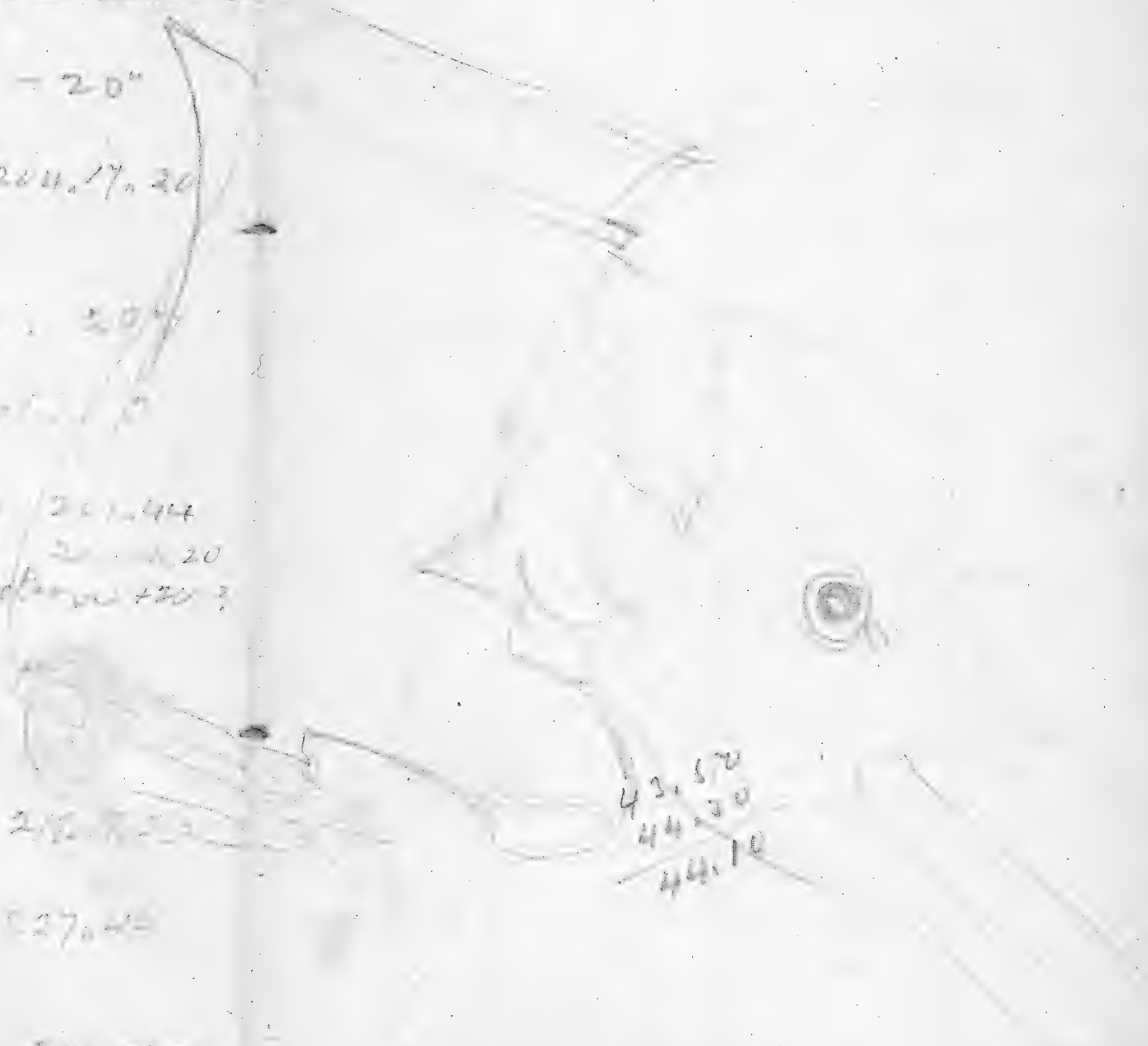
edge of bank of XXX
 at 25% N

Δ East 24.51.20 21.44.20

Δ East 27.45.00 27.45

Δ East 31.51.40 31.51.20
 at 25% N

Eastern Block at Spt. Anaktuvuk
 S 5 N 234.32 54.32



43.50
 44.30
 44.10

13
 Δ East 201.43.20 201.43.40
 at 28 77 150 between town line

Observations from Eastern
 most Rock off S. end Anakrak

Western Rock 13
 Δ L 100

1 4 1/2 E
 1 1/4 E
 Middle of West Rock off
 S. End Anakrak
 12 between

1 7 1/4 38 252.34 102.37.40
 12 1/2

1 1/2 15 1/2 100 1/2 100 1/2

1 1/2 15 1/2 100 1/2 100 1/2

Δ K 100 1/2 100 1/2
 7 3/4

Δ I 100 1/2 100 1/2
 10 1/2

179 59 60
 102.37.30
 77.22.30

Anakrak



Day fog but wind in latter
part of day. Sun late in P.M.
Ther. 47. Bar. 29.550 - Wind S.

October 31st. Tuesday -
Heavy snow storm with
squalls from the S. Ther 45
Bar. 29.300.

November 1, 1871

Wednesday

Ther. 34. Bar. 29.580 wind S lit
Heavy snow fall

November 2, Thursday

Ther. 32 Bar. 29.844 Wind 0.
Snow falling at intervals all
day, very heavily in P.M.

Nov. 3rd Friday

Heavy snow storm Bar. 28.762
Ther. 35. min 21. Wind squally, in
N.E.

Test thermometer

From 32 to 48 in the water they
appeared to agree above that

Parallel readings. Fahr.
Ship Ther ^{In water} Standard

✓ 32°	32°
✓ 32.1/2	32.1/2
✓ 45°	45°
✓ 45.1/2	45.1/2
✓ 44.1/2	44.1/2
✓ 38°	38°
✓ 37.1/2	37.1/2
✓ 37°	37°
✓ 41°	41°
✓ 41.1/2	41.1/2
✓ 47.1/2	47.1/2
✓ 48°	48°
✓ 49.1/4	49°
✓ 59.1/4	59°
✓ 59.3/4	59.1/2
60°	59.1/2

the ships therm. read from $\frac{1}{4}$ to $\frac{1}{2}$ a degree too high - In the air the difference appeared greater. The ships therm read half a degree higher between 32 & 60 but the difficulty of placing two thermometers one with a metallic cage & one without, under the same conditions in the draughts & currents of air on board ship, leads me to place more reliance on the test by water.

Clean instruments.

Nov. 4. Saturday

Gale from SW & snowstorm

Bar. 29.170. Ther. 30 - 28 min

Sunday Nov. 5

Day cloudy squally & snow. Bar. 29.986

Ther. 32. min 28, SW.

Monday Nov. 6

Day squally with rain. Bar. 30.076

Ther. 34. min 28. SE.

Parallel readings of Thermometer

Ships

57° $\frac{1}{4}$

57° $\frac{1}{4}$

57.

Standard

57.

57° $\frac{1}{4}$

56° $\frac{3}{4}$

In air.

58° $\frac{1}{2}$

57

59.

34° $\frac{1}{2}$

32° $\frac{1}{2}$

58° $\frac{1}{4}$

56° $\frac{1}{2}$

58° $\frac{1}{2}$

34

32

Note { In air out doors read
Even with the standard nearly

Obs. from Δ West - Photo
directly over signal

A	B	No
✓ 11.5 2 3/4 East		170
✓ 11.5 2 3/4		171
✓ 11.5 2 3/4		172

Double	3.00, 40	151.45
✓ 20.00% E	5.00	151.45
20.00% E	8.00	151.45

N. H. 100	1.44	181.44
✓ 1004 E	1.44	181.44

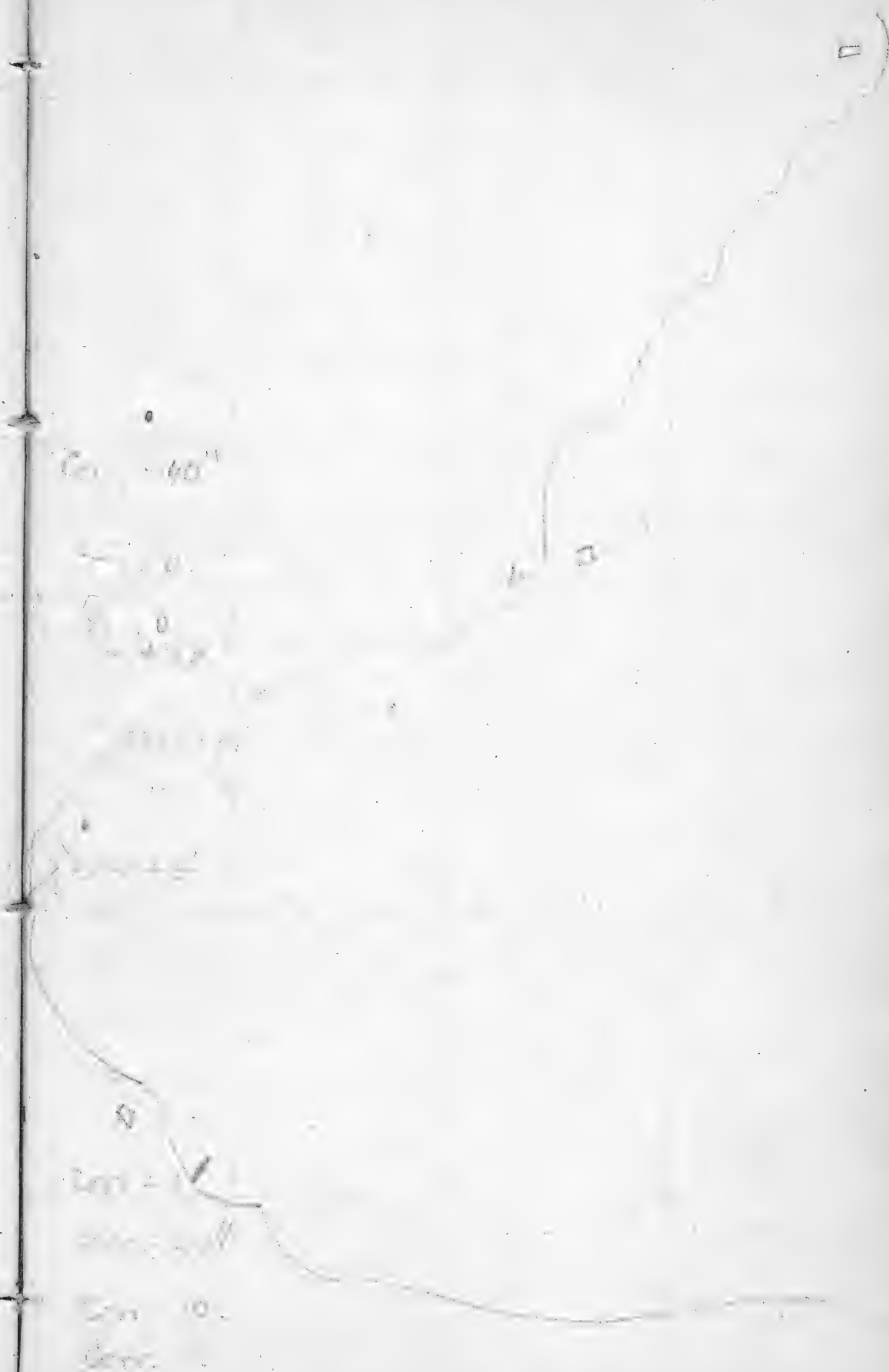
W. Sand spits	6. 4. 40	1960. 10. 40
v. 10. 10. 40	6. 1. 40	1960. 10. 40

W. Park of reef 2.50 109.38.40
✓ 2.50 ✓ 107.38.40
✓ 2.50 ✓

X² diff 3/10/01 - see line 1000

K	15. 11. 40.	17. 12. 40
✓ 100 70 30 E ✓	15. 13. 11	17. 15. 0
✓ 100 70 50 E	17. 12. 40	17. 17. 40

✓ 1. SALE.	45.26 30	875.00 48
✓ 45.26 40		120.27
21.72 40		255.26 7



S. v. d. B.

✓ E - 10 31-7-80

$$m \sqrt{b} = 47.5 \text{ M}, \quad 21.5-40 \quad 241.276 \text{ g/mol}$$

✓ 21.52.46 200 3 " 0

Enl. 53, p. 107-110. 1980

$$E \sqrt{10} \approx 10 \sqrt{10} \approx 31.622776601683793317984639541426911564140625$$

2017	174,276	100%
2016	150,370	100%

[Faint handwritten notes at the bottom of the page]

10.

A. 52.14 20 232.10 20

\checkmark

[illegible]

Vegetables

2500 10000 ✓

— ΔA

9. A. 2075.25.00 2075.25.00

✓ 47.93.23-2442-10

$$\checkmark \quad \rightarrow \quad n\theta = 0 = 147.000 \quad 2\theta = 0$$

W. J. ... 1945

± 0 130

C ✓ 10 15 20 15 10 20

Split top. 10 15 20. X ✓

B. ✓ 22.50 01.00.00

m. 22 1/2 @ ✓

A ✓ 10 15 20 15 10 20

(10 15 20 ✓

A. 29.00.00 ✓

1-10 E 29.17.00 ✓

29.24.00

G

✓

✓

95 44 40 275 44 40

95 45 275 45 20

95 44 275 44 20

95 43 40 275 44

95 44 20 275 44 20

X

10 15 20 15 10 20

10 15 20 15 10 20

North edge of Flat on Amaknak
South bears N 83 1/2 W (middle)

SE end of Flat bears S 66 W

End of slope SW corner in one
with rocks off west head of Captain's
Harbor bears S 79 W

Rocks off East Head Western
Inlet bear S 84 1/2 W

Bluff S. side Makushin valley
bears N 80 W

Very close to calving. Therm. 34
Wind 28. Bar 30.248. Spent
nearly all day taking the air and
crafted a few essay again with pen.
Boltina is carrying mail 20.35.
not very satisfactory from the
imperfect nature of the
Harrington = alt. in all that
November 8. Wednesday

Observations from A. East

Δ 71.41	N 83 1/2 W	0	0	110
Δ E + 61.21	Corr 40.27.03.40	17.00		
✓	6 71.17.03.20	17.00		
	6 71.17.03.40			
	6 71.17.03.40	17.00		

17-02-40

ΔD 12.49.10 159.49 10
 \checkmark 0 59.19 40
 0 59.19 20
 40 59.19

ΔE 0 180
 ΔD 42.17 200.17
 ΔC 12.49.10 159.49 10
 \checkmark 0 59.19 40
 0 59.19 20
 40 59.19

ΔD 12.49.10 159.49 10
 ΔC 12.49.10 159.49 10
 \checkmark 0 59.19 40
 0 59.19 20
 40 59.19

ΔA 12.49.10 159.49 10
 \checkmark 0 59.19 40
 0 59.19 20
 40 59.19

ΔC 0 180
 ΔB 10.11 190.11

ΔB 0 180
 ΔA 10.11 190.11
 \checkmark 0 59.19 40
 0 59.19 20
 40 59.19

End of Bluff, N 7 1/2 W

End of Bluff, N 32 E

End of Bluff, N 45 3/4 E

End of Bluff, N 45 3/4 E

Δ A	0	180
N 45 3/4 E	12, 14, 40	192, 104, 40
✓	10	12, 14, 40
	10	192, 104, 40
	10	12, 14, 40
	10	192, 104, 40

Δ K	0	180
Δ II	12, 14, 40	192, 104, 40
✓	10	12, 14, 40
	10	192, 104, 40
	10	12, 14, 40
	10	192, 104, 40

Δ A	0	180
Δ I	55, 33, 20	285, 312, 20
✓	0	55, 33, 20
	0	285, 312, 20

Δ A	0	180
Δ L	107, 24, 40	287, 25
✓	0	107, 25
	0	287, 25, 20
	0	107, 25
	0	287, 25

ΔI ✓ 0 180
 ΔL ✓ Corr -20" 51.51.20 231.51
 ✓ " -20" 51.51 231.51
 " 0 51.51.20 231.57.20

$\Delta H/S 12 1/2 E$ Corr 0 63.13 243.13.20
 " -20" 63.12.40 243.13
 " 0 63.12.40 243.13

ΔK 0 180
 ΔH ✓ Corr -40" 106.31.00 286.31.20

ΔL 0 180
 ΔH ± 11.38.40 191.37
 Corr 0 11.21.20 191.21.20
 " +20" 11.21.40 191.21.40

$\Delta C/S 45 W$ ✓ Corr 0 73.17.40 253.18
 " -20 73.18 253.18.20
 ✓ " -40 73.18 253.18.20

$\Delta F S 70 3/4 W$ ✓ " +10" 99.10.40 279.11
 " 0 99.10.40 279.11
 ✓ " +20" 99.10.40 279.11
 " 40 99.10.40 279.10.40

ΔH 0 180
 ΔC_K ✓ Corr 0 61.57.20 241.57.40

ΔG

ΔF

✓

Cor 0

0

25.52.40

180

205.52.40

ΔF

ΔE

~~0~~

~~180~~

0

180

Cor 0

42.45.20

222.45.40

" +20

42.44.40

222.41

-0

42.45.20

222.45.40

Top Amathak S

S 49 1/2 W

Middle Crest of Pyramid S 31 1/2 E

End Rocks off E Point Amathak Sound
near S S 35 E

Split Top at 32 7/8 E

Day clear, fine & calm. Ther. 38.

Min. 24. Bar. 30.448. A coat

of ice over inner harbor from the

half to one inch thick. Does not

melt during day - all day rising

water, but soil in tide gauge -

Thursday Nov. 9

Clear & fine. Spent the

day taking

Hydrographic observations for

under, recording for Harbors

with the machine. Ther. 38, Min.

30. Bar. 30.472. Wind light from

S.E. 40 current in P.M.

Friday Nov. 10, 1871

Day clear & fine wind S E light
Barometer Thu. 54. min 33. 8 p.m.
a good part of day in making
a road to the tide gauge through
the ice. P.M. Observations for
magnetic variations on Spit

Saturday Nov. 11.

8 A.M. Frost

9 A.M. Frost

10 A.M. Frost

11 A.M. Frost

12 A.M. Frost

1 P.M. Frost

2 P.M. Frost

3 P.M. Frost

4 P.M. Frost

5 P.M. Frost

33 ft 3 in

66 ft 10 in. distance in water to the bottom
lower water and 20 ft. to the bottom

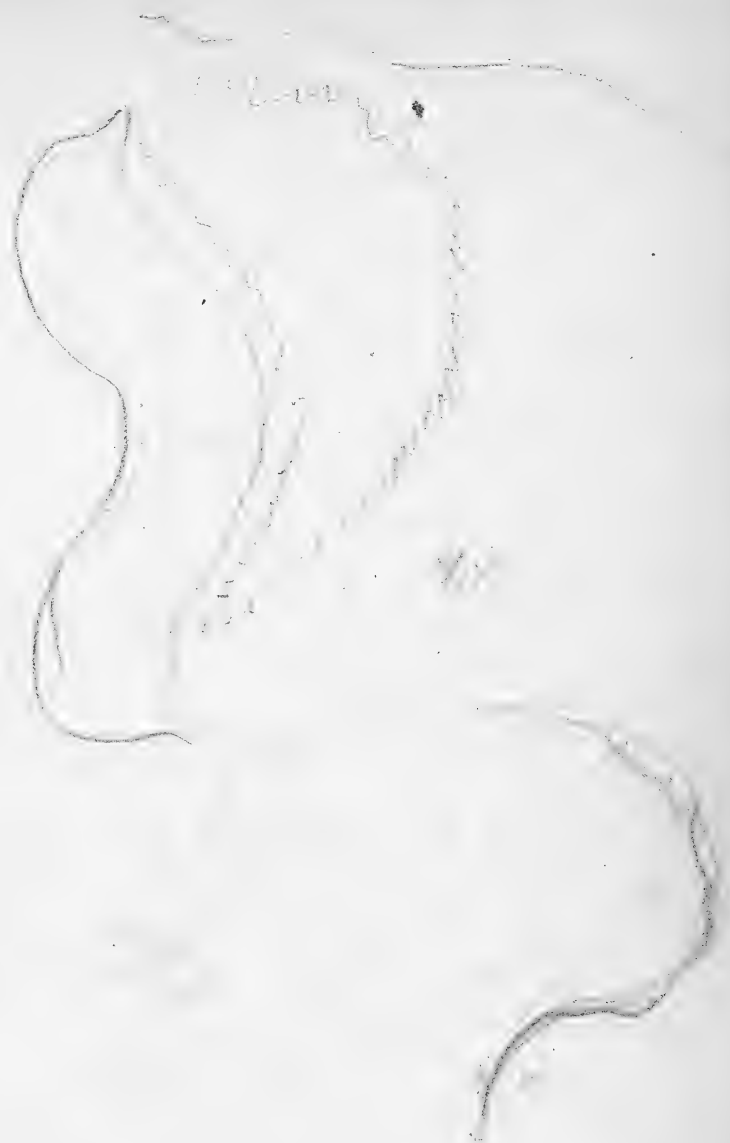
Day was fine with few clouds
& a moderate S.E. breeze. Ther. 42.
min. 35. Bar. 30.368. Tide gauge run-
ning well.

Sunday Nov. 12 1871

Day cloudy with moderate S.E. Ther. 45.25
Barometer 30.046.

Monday Nov 13

Day Cloudy with some rain & snow
Bar. 30.000. Therm. 47. Min. 35. Wind
light S.E. P.M. Take bearings of last line



Thurs day Nov 14.

Bar. 30.000. Ther. 40. Min 34.
Cloudy, fair. Wind light E -

Day from ...
A ...
A 37 1/2 E (tides) ...

... removed on ...

Observations from Δ Round Top.
Bumbat 55 1/2 E from center of station,
distance 10 m

Δ Ushkta	180	0
N 27 1/2 E	✓	

Head	193.32.40	13.09
14 1/2 E		

Δ Ushkta	✓ 180	0
N 27 1/2 E		

Head	193.39	13.39.30
14 1/2 E	✓ 193.39	13.39

Δ Ushkta	180	0
----------	-----	---

... Point ... 74 ...

$$\begin{array}{r} 12 \\ 6 \\ \hline 10 \overline{) 724} \\ 60 \\ \hline 124 \\ 120 \\ \hline 44 \\ 40 \\ \hline 40 \\ 0 \end{array}$$

45

$$\begin{array}{r} 10 \overline{) 60 / 3.7} \\ 48 \\ \hline 120 \\ 112 \\ \hline 80 \end{array}$$

3.45

$$\begin{array}{r} 3.30 \\ 3.03.45 \\ 3.03 \end{array}$$

$$\begin{array}{r} 3.45 \\ 3.25 \\ \hline 26.15 \end{array}$$

$$\begin{array}{r} 3.30 \\ 3.26.15 \\ 3.26.15 \end{array}$$

$$\begin{array}{r} 2 \overline{) 10,22.30} \\ 3,27.45 \\ 99.00 \\ \hline 22.15 \end{array}$$

$$\begin{array}{r} 31 \overline{) 20.25 / 67.5} \\ 15 \\ \hline 22 \\ 71 \\ \hline 15 \end{array}$$

Rocky Pt. Cont. Dist 20' 191.44.40 74.44.10
 S 78 1/2 E 0 24 07 74.44.10
 S 78 1/2 E ✓

Cont. of Split Head 191.44.40 11.45.40
 N 39 1/4 E ✓

W. Side Middle Bluff 203.39.30 22.39.40
 N 51 1/2 E com = 20 ✓

Pinnacle
 N 47 1/4 E Com = 20 209.44.20 29.44
 ? 209.44.24 29.44.28
 ✓ " + 1.20 209.45 29.45.20
 0 209.44.20 29.44.20

Cont. of Split Head 228.07 48.07.10
 N 75 1/2 E ✓ 0 228.07 48.07.10
 " + 40 228.07.40 48.08

Split Head A 205.17.40 25.18
 N 52 3/4 E ✓ " + 40 205.17.40 25.17.40
 " - 20 205.17 25.17.20
 " - 40

Split Head B 180 0
 N 52 3/4 E ✓

Rocky Pt. A Com = 40 228.49 48.49
~~N 81 1/5 E~~ ✓ " - 20 228.49 48.49
 S 78 1/2 E " + 20 228.49.40 48.50

Δ Rocky Pt.
S 78 1/2 E

A

180

B

0

Δ D	Gr O	265.26.20	85.26.20
S 7 W	" +20	265.26.20	85.26.40
S 7 W	" +20	265.26.40	85.26.20
S 7 W			

Crest of Pyramid 237.28.20 77.28
S 21 E

Crest Amelnat S. 265.05 85.04.40
S 9 1/4 W

S End Low Bluffs 341.05 147.05.20
S 32 W

High 429.2. 18.40.7 198.40
S 40 W

Base of S 1/2 Bluff of main knoll of
N 52 1/2 W 26.27.20 206.02.40

Top of S 1/2 Bluff Δ
S 20 E 100.70 246.30

Wahhita Δ Gr-20° 105.54 285.54

Rocky Point Δ 150 0

Rocky Point Δ Gr O 100.30 252.71

Aug 4th 1880
100.30 252.30
at 2.25
Close up & return to vessel
at 2 P.M.

Wednesday Nov. 15
Bar. 29.932 Therm. 34 Min. 29
Calms - Cloudy. Light (1/2 in) ice
in inner harbor. rains most of day

Thursday Nov. 16
Bar. 29.778. Therm. 32. min 31. sky
drab snowing lightly. Calms - Rains
& snows during day. P.M. NW breeze.

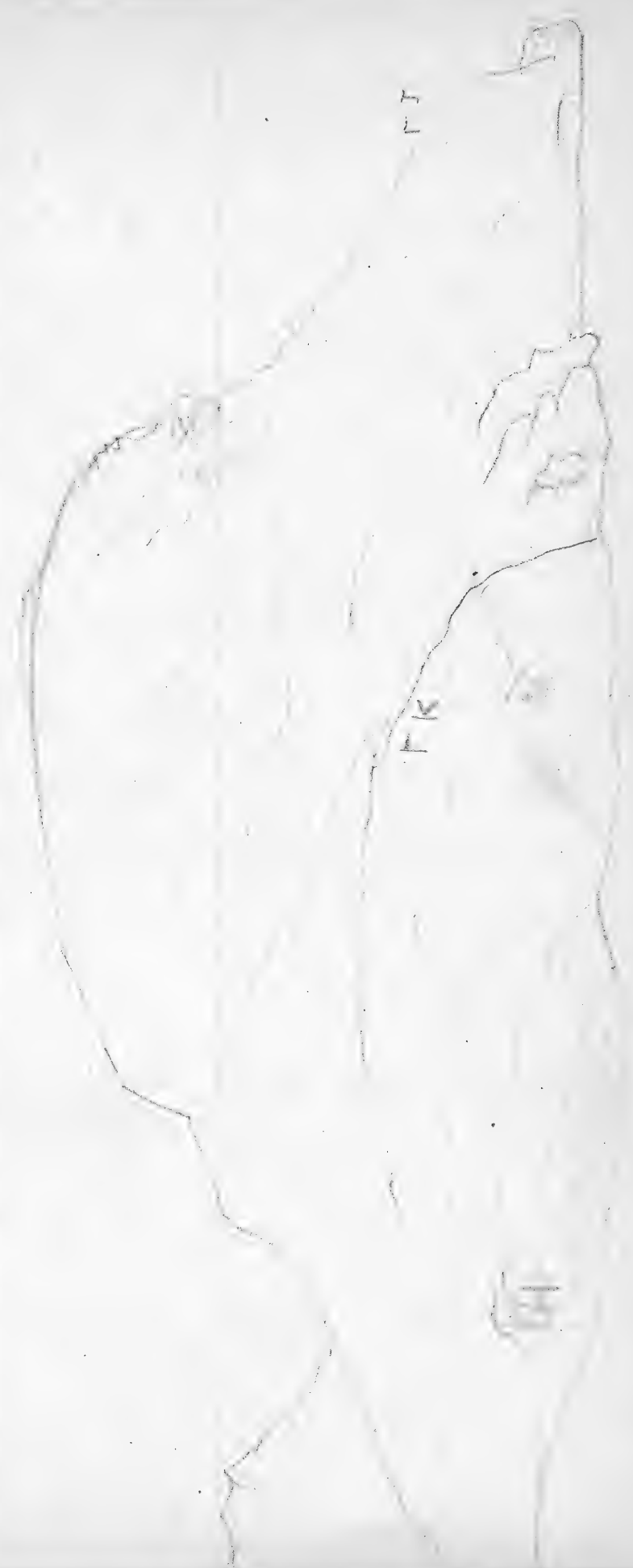
Friday Nov. 17
Bar. 29.586. Ther. 32. min 29. Snowing
hard Calms.

Saturday Nov 18
Bar. 29.056^(25.0) Ther 40. min 29. Rain &
hard squalls from N.E.

Sunday Nov. 19
Bar. 28.978. Ther. 40. min 35. Rain
not light NW wind.

Monday Nov. 20
Bar. 28.658. Ther. 40. min 35.
Strong steady northerly wind with
very high tide long continued
N.N.W.

Tuesday Nov 21⁽³²⁾
Bar. 29.272 Ther. 39. min 35. Light.
Observations from Spithead
Center of signal S 851 7/8 for
Throd. 29 in. from Plumcot



to center of signal
Ulakhita 270.54 287.54¹³
(Spithead) Central Sig. 299.48 149.48 (3550)
Day half cloudy, windy towards
north. P.M. calmer.

Wednesday Nov. 22

Bar. 30.058. Therm. 37. Min 36. Wind
SW in early morning changes to NW
with snow about 9 A.M. P.M. fair
as to Spithead to take angles but
are delayed & finally interrupted
by heavy snow squall. Evening
calm, moon shining few clouds.
Later heavy snow fall.

Thursday Nov. 23

Bar. 30.630. Wind very light NW. Ther
38 min 28. Cloudy. Spent day taking
angles from Spithead & Round Top.

Friday Nov. 24

Bar. 30.550. Ther. 39. Min 28. Wind
light SE. Thin ice over the whole of
small harbor. Spent day at Ulakhita
station taking angles.

Saturday Nov. 25

Bar. 30.456. Wind light Easterly. Ther
39. Min 22. Morning blizzard has
hard to work P.M. Angles from
Round Top.

Sunday Nov. 26

Bar. 30.162. Ther. 41.5. Min. 38.
Wind fresh, E.

Monday Nov 27, 76

Bar, 30.036. Ther. 42, min. 38. Wind light SE. Foggy with various degrees of density all day.

Tuesday Nov. 28.

Bar. 30.036. Ther. 40. Min 38. Wind light N.E. Go to Bailey's & take angles. The signal is forty feet above the beach about thirty feet in from high water mark and with a single cluster of black rocks in line with Spit Head Station. N $77\frac{1}{2}$ W. Heavy surf coming in from N.W. capsizes boat when endeavoring to launch her; store boat wet instruments and everything. Walk back to village as we cannot get off on account of the surf and rocky beach.

Wednesday Nov. 29.

Bar. 30.126⁽³⁹⁾ Ther. 36. Min 35. Wind squally from SE with snow flurries occasionally.

Thursday Nov. 30.

In line between Ulakhta signal & Pinnack at top of beach telemeter reads between both wires 22.

Beach of Ulakhta Harbor, in line with Bulbit Rock and Ulakhta signal, telemeter reads 46 between both wires.

Angles at Ulahtla from 10 AM to 2 PM
Bar. 30.386, Ther. 35, Min 33, Calm &
cloudy in AM. Clears off bright at noon
with NW breeze. Clouds again in P.M.

Friday Dec 1 1871

At the distance of 20 meters from
the lower wire
in the line with last and 27, Bar
tell's at high water mark on
telemeter, at 40 meters, 27, the lower
at the distance of 20 meters between
the 27 and 28 placed on the staff.

Angles at Rocky Point in A.M. Full
correct adjustments of theodolite and
test telemeter. Bar. 30.386, Ther. 31, Min.
25. Morning calm followed by breeze
from NW rather strong in P.M. Cloudy.

Saturday Dec 2

Bar. 30.286, Min ²⁹33, Ther. 37³⁵
Puffy wind from NW with suc-
cessive snow squalls all day
turning into rain in P.M.

Sunday Dec 3

Bar. 30.28, Ther. 31, Min 29. Strong
N.W. wind sky clear.

Monday Dec 4

Bar. 29.736, Ther. 29, Min 27.
Breeze from W. Sky half cloudy -
in line with last and 27, Bar
tell's at high water mark on
telemeter, 20 between both wires
in line with a Roundtop, 22 1/2
between lower wires.

Laurel Point, 1/2 mile, 45 between
lower wires, bearing S 82 W
In line with A Pulpit 41 between
lower wires.

In line with A Baily's, 6 between
lower wires

Spent morning taking angles from
Spithead completing the series. P.M.
Wind too high to admit of work

Tuesday Dec 5, 1871.

Bar. 29.312 Ther. 30.5 Min. 27.
Wind fresh N.E. at 11 A.M. snow hard
from 9.30 A.M. to 11 take angles from
Rocky Pt. A. Snows all the rest
of the day & evening

Wednesday Dec. 6.

Bar. 29.050, Ther. 31. Min. 25. N.
Gale with snow from north all day

Thursday Dec 7

^{snow} continues, Bar. 29.00 Ther. 23. Min 21
Visit the gauge which could not be done
yesterday and find that it had stopped
about five minutes after we left
it Tuesday, from a piece of the
pinch falling between the rollers

Friday Dec 8

Bar. 28.988. Ther. 24. Min 20. Wind light
S.E. with light snow P.M. very
heavy snow fall.

Saturday Dec 9

Bar. 28.943. Ther. 22. Min 22. Wind fresh

SW, about 8 inches of snow fell last night.

At 10 minutes (nearly) of 2 P.M. the bench mark was 54 inches above the height of the water which reads on the staff 8.45 - carefully measured -

Bar. 29.070. Ther. 35.5. Min 27. Wind has cleared away all the ice, and is blowing hard from NW with rain & snow.

Monday Dec. 11.

Ther. 30 to 45. Min. 27. Bar. 29.204 Wind very light from SW. Sky in am perfectly clear and in P.M. only very light clouds. Spent day taking angles at Pulpit & Rocky Point. P.M. quite cold. Small harbor. Icebergs over again. About midnight N.E. breeze.

Tuesday Dec. 12. 1871

Bar. 29.070. Ther. 35.5. Min 27. Wind has cleared away all the ice, and is blowing hard from NW with rain & snow.

Mem. from book of angles Dec. 11.
From Pulpit. General trend of shore toward Hull Rock, N 27 E.
End of bluff bears N 30 E
Split Top, N. 46 E

Lost amulet mark S. 16 $\frac{1}{4}$ W
Went to tide gauge at 2.15 a very high tide found that the water

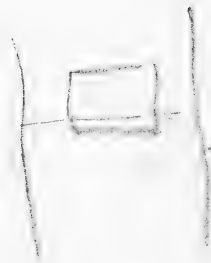
stood at 9.5 on the staff taking the mean between the wavelets. It had been a little higher but owing to the warping of the paper by damp the pencil had been prevented from reaching its maximum. By carefully examining the snow in a quiet place, which came to the water's edge and allowing for the rise and fall of the ripples I came to the conclusion that it had been about a tenth of a foot higher which would bring it to the limit of the paper, or 9.6. So off to gauge again about half past eleven P.M. and find the water down to 3.525 on the staff with about a foot to spare on the paper. The water rose ~~fell~~ a little after this. Bar. 29.086

Wednesday Dec 13, 1871

Bar. 29.210 Ther. 32.5 Min 31. Wind N.E. Cloudy with snow. High tide again. P.M. cloudy, fair - evening clear. Stars very brilliant.

Thursday Dec 14.

Bar. 29.37. Ther. 27. Min 20. Wind. 0. Cloudy with snow, slush ice all over small harbor. Later, about noon breeze from N.E. with snow. Evening SW



and SE with heavy rain & high wind. ice broken up & disappears. Bar. falls to 28.930.

Friday Dec. 15.

Bar. 28.494. Ther. 44. min. 25. Gale with rain, from S + E. - boxing the compass by fits & starts. Very high tide exceeding the limit of the gauge for some two hours & a half.

Gale all day of varying intensity with torrents of rain.

Saturday Dec. 16

Bar. 29.131. Ther. 35. min 24.

SE gale diminishing. It blew with great fury at times during the night and the vessel dragged to the northwest three or four lengths though having both anchors and 120 fathoms of chain on each out. Cloudy with hail squalls. Several signals blown down. Roofs off several houses in the village. boat & water casks blown away from the beach. B. L. sent more northerly and lighter. Evening blue lights visible on shore.

Sunday Dec 17

Bar. 29.838. Ther. 21. min. 29. Calm clear. Small harbor freezing over. Finding a constant difference between the height as measured on the staff

outside and the same as recorded by the tide gauge, since the oil was put into the float box, I measure the height from the surface of the oil to the bottom of the floor of the tide gauge house finding it to be $19\frac{1}{4}$ inches - at the same time the distance from the surface of the water to the bottom of the floor, was $21\frac{1}{4}$ inches giving an elevation of the surface of the oil above the water level of two inches. It probably varies a little with the temperature. Day very fine and clear. Ice forming quite thick & hard by night finding irreconcilable errors in the computations from the telemeter I attempt a measurement on deck but the distance is too short for a satisfactory trial. The staff has been badly made and will have to be painted over as soon as I can get a constant for the angles measurements already taken.

Correction for telemeter measurements

Focal length of theodolite $1297\frac{1}{2}$ in
 Object glass to center 4.6 in
 Additive corr. 12.1 in = .3048 meters

For test. Place the initial point of the chain one foot in advance of the plummet in the direction of the staff, adding the correction to all distances measured once for each sight.

Trial on deck gives 5 units between both wires at a distance from the focal point of 16 feet $5\frac{1}{4}$ inches = to 1 unit between both wires at a distance of 3 feet $3\frac{45}{100}$ in or 0.92313 meters to which correction to the center should be added. Previous tests have omitted the focal correction and are hence erroneous. They must be repeated in a more correct way at the first opportunity.

Monday Dec 11

Bar. 30.880. Ther. 39. Min. 25. Wind in A.M. none. Toward noon N.E. light P.M. strong, north. Ice which had formed quite thickly in small harbor, begins to break up.

Took the boat & five men & go to the various signal stations repairing damages done by the gales of the 16th Builys. Round Top and Rocky Point signals all down, were set up again. The others were all right. The wind appeared to have lifted the signals bodily out of the ground as the holes were not enlarged or the stays, except one, broken. Evening cloudy with a good deal of haze & high wind. Back to vessel by dark.

Tuesday Dec 12

Bar. 30.280. Ther. 37. 34. Wind N.E. On shore & last telescope carefully. 20 units between both wires corresponds to 20 meters and two units are included between the lower wires at a distance of 13 feet 1 inch. Both distances from one part in advance of the

Example I

170 between lower wires

$$\begin{array}{r}
 170 \\
 \underline{2} \\
 340.000 \\
 .729 \\
 \hline
 \text{Result } 339.271
 \end{array}
 \qquad
 \begin{array}{r}
 .006085 \\
 \underline{170} \\
 35 \\
 56 \\
 \underline{0042} \\
 .42595 \\
 0085 \\
 \hline
 1.034450 \\
 0304794 \\
 \hline
 .729656
 \end{array}$$

$$\begin{array}{l}
 13 \text{ ft} = 3.96283 \text{ meters} \\
 1 \text{ inch} = 0.02540 \text{ meters} \\
 \hline
 = 3.98783 \text{ meters} \\
 = 2 \text{ units between wires}
 \end{array}$$

This gives as constants—

1 unit between ~~app~~ both wires

= 1 meter

1 unit between lower wires

= 1.998915 meters

use therefore for lower wires

1 unit = to 2 meters less 0.006085 meters for every unit subtended. To which total the sum of .0304794 is to be added for the focal correction making the true distance

phantom as required by the formula for correction of focal distance. P.M. Clear, evening beautifully clear & calm. ice forming as usual over small harbor. Move the vessel out into the middle of the harbor in Am. Day so foggy as to wet like rain until late in P.M.

Wednesday Dec. 20

Bar. 30.172 Ther 30-40 Min. 22
Sea calm, perfectly clear.
Ice over small harbor ex-
tending as far as North Rock

[illegible]

Foot of Round 2 & 3 hills, by
intersection of S. Lawrence with River. (1 mi)
Oct 12 - 10th 05.

\pm The correction for vertical angle -

High wind from E & S arises & we return, after finishing series of angles - some fog comes in.

In the A.M. a good deal of fine ice around kelp and in sheltered portions of the Main Bay soon and however after wind springs up.

Thursday Dec 21

Visit tide gauge and put on new paper. Bar. 29.922. Ther. 37. min 34. Wind squally E. high. Cloudy & disagreeable. Ice all gone. Work over copying all day, wind shifts to NE in P.M. - with rain.

Friday Dec 22

Bar. 29.570. Ther. 39. min 35. Wind puffy from SE. Heavy rain. Visit tide gauge & let out chain three links to shift the mean level nearer the bottom of the paper. Rains all day, work at copying angles.

Saturday Dec 23

Bar. 29.702. Ther. 40. min 39. Wind light E. Heavy fog & fine rain all day. Morning erect two signals on the east shore of the Bay.



one near the cemetery about forty feet from the beach and fifteen feet above high water mark, just to the NW of a small rivulet which loses itself in the stones of the beach, call this Albatross station. Another on the SW end of the flat on the east side of the Bay west of a small light where the boats can almost always land, 20 feet from the beach and four feet above high water mark - Still water station. Repair several signals from which the flags have blown away.

After noon erect a primary signal on the top of the hill between middle & South Anna Knab Island just south of the lagoon, height not yet determined, all the other primary stations are visible from this one and it will be one of the stations for the main triangle. Name it Keystone station.

Sunday Dec 24

Bar. 30.050. Ther. 40. min 35. Wind SE. 10-20. Breeze fresh in P.M.



Monday Dec 25, 1891

Bar. 30.157. Ther. 35. Min. 33. Cloudy with rain and a severe S E wind.

Tuesday Dec. 26.

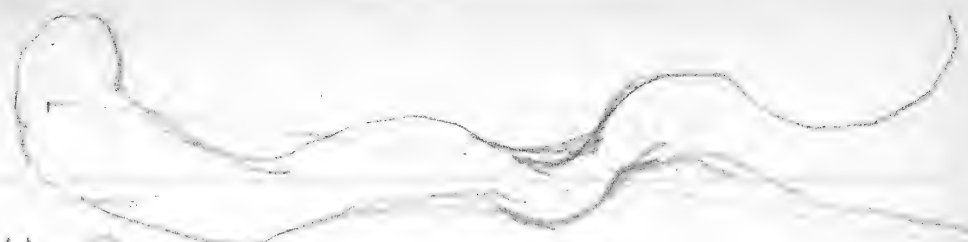
Bar. 30.200. Ther. 37. Min. 35. Wind easterly, fresh. Cloudy. Wind blows almost a gale during day. Make arrangements about coal.

Wednesday Dec 27

Bar. 30.153. Ther. 36. Min. 34. Wind light easterly. Cloudy with passing showers of rain and sleet. P.M. some snow.

Thursday Dec. 28

Bar. 29.918. Ther. 32. Min. 29. Wind none. Cloudy with light snow fall. Ice forming on small harbor. To get mean temperature of sea water commenced to observe with Miller Casella Therm hanging it over the stern with six fathoms of line every night continuing the surface observations, last night the Casella read 40°. water in early am was 37° at the surface. To get an approximation to the mean temp. of the air, hang up one of the Casella Therm at the tide gauge. Gauge seems to stick some times when the water is on the rise. Go to Spithead in P.M. and attempt to measure over the base line with



Spithead to

A Edge of water W side spit 120 fms.

B Near " 4 paces " " 100 fms
Walk in from A 14 paces to escape water
Spit abt 50 ft wide here.

C ditto line not straight but wale up & down at each end and 10 feet 120 ✓

D on top of spit to point on E beach
10 paces to point at 90 fms -
beach 120 fms ✓

E along East beach 120 fms ✓

F " " 190 fms ✓
80 in. 10 paces to escape water

G on top of spit $\frac{1}{3}$ across 120 fms

Altogether 89 fathoms -

	89 ✓
56 73.11	120 ✓
54 54	120 ✓
219	120 ✓
	120 ✓
	120 ✓
	100 ✓
	120 ✓
	90 ✓
	54 54

a 120 fathom line, as chaining is impossible. The attempt fails as I supposed it would. Must re-measure with the telemeter. Day ends calm, or light E air, and heavy coat of ice on small harbor.

Friday Dec. 29, 1871

Bar. 29.912, Ther. 34. Min 21, Max 35.
Wind very light SE, clear & fine. Small harbor solidly frozen over.
Go to Spithead to re-measure base line with telemeter

Station	Reading	Vert angle	Meters
Spithead			
A	100	0	100.000
B	232 1/2	0	232.500
C	318 1/2	111.55'	318.413
D	253	0.15'	252.998
E	233	0.15'	232.998
F	84	111.45'	84.916
G	330	+ 111.40'	329.930
			329.935
			122422
			1550.745

Remarks

A is about 10 ft. from edge of Spit. W. side, about middle of shallow light.

B is on the beach a little below high water mark, W. side of Spit over shallow light and along beach.

C on left of beach, W. side of Spit light over rather deep light.

D across narrow part of Spit. Near edge of beach about 10 ft above high water, W. side, over water bounded with Spit.

E on E. side, on beach about highest, over beach.

F along beach to edge of water. Station at edge of water, about half tide.

G Over water along beach. About high water mark on beach E side.

Station	Reading	Vertical	Meters
FE	42 1/2	20 " 44'	1551.755 41.534
Ulahtia	169 1/2	+10 " 25'	169.410
From Ulahtia			
Total			Perimeter 2.743 1765.462
P.M. Clear & calm or light E. w. b. breeze. Ice remains intact. A very large column of smoke + steam arising from Ilatenshin volcano too dark to work back as I had intended -			

Remarks
When we began to work the the on board the ship 20' H. on the spit. By 50 it was found that the spot beginning to break to the eastward.

Bar. 29.574. Ther 27. Max 32 Min 19. Calm
Ice thick & heavy extending out into
outer harbor nearly to reef. Breeze fine
much of A.M. but in evening very
through ice unable to

Ulaakhta to

Station	Reading	Next angle	Meters
From 1st Sta			
A	199	0° 46'	194.918
B	19	0	19.000
C	330	0	330.000
D	255	0° 50'	254.929
E	147 1/2	0	147.500
F	140	0	140.000
	+ 6 in		.152
G	80	2° 25'	79.971
H	270	0	270.000
I	84	0	84.000
J	136	1° 00'	135.721
Springs	104 1/2	13	104.500
		second curve	8.047
			210718
			155422
			1765.53

Remeasurement of base line. P.M. from
Ulahtta to Spit head. Less reliable
than the last as the sun shines
directly in my face & the stadia
is shaded. Back to vessel about
4 P.M. Ice everywhere in outer harbor
but only ~~of~~ light coat of crystals

Remarks

Across split at A, 20, Vert. Aug. 20.

A near **H** but ^{medium height} ~~more~~ ^{black} ~~black~~.

B on water's edge nearly before

Can water, near the F of yesterday.

I am back & take 25 H pills 7 AM, 10 AM

Across the split from D 30 Vert Aug 0°

along E. Bank of Mt. E on S. side of

to get a P.M.C. And come to the sign

to F. ... 33, 1940

7-11-45

Access from F12, Vert. D

Along w. shore Shuk and into water

Order 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 8

Along water's edge, I do not see

Over a half a century ago, the first of these
 was the

[illegible]

1765-438

76-2468

5

2000

Sunday Dec. 31, 1871

Bar. 29.362. Ther. 33. min 24 Max 27.
Fresh NW wind with drizzle & little snow
ice stationary

Monday Jan. 1, 1872

Bar. 29.136. Ther. 30. Min. 25 Max 32
East high wind from NW with snow
squalls - ice prevents our visiting
tide gauge. Wind blows very hard
during day & evening but makes very
little impression on the ice.

Tuesday Jan 2.

Bar. 29.222 Ther. 27 Min. 25 Max. 33
Wind fresh NW cloudy with snow
at intervals. Spend most of the
morning getting to the tide gauge
the bridge to the shore having
been carried away by the ice.

Wednesday Jan 3

High NW wind, Ther. 31, Max 30
Min. 24 Bar. 29.150
Ice little affected by the wind, but
apparently thawing a little. Snow
squalls occasionally.

Thursday Jan 4

Wind NW as before, this is the
strongest wind we have had.
Bar. 29.340. Ther. 25. Min 23. Max 32.
Ice gradually yielding but still
covering the better half of the harbor
cloudy & little snow.



Friday Jan. 5, 1872

Bar. 29.264. Ther. 22. Min. 19. Max. 25.
Wind strong as before with snow squalls
all day, ice disappearing gradually
Very low tide at night.

Saturday Jan 6.

Bar. 29.624. Ther. 23. Min 19. Max 25
Wind puffy from NW, less strong
than before. Ice mostly gone. At 11
Wind changes from NW to SE
finally calm. Snows - Evening calm

Sunday Jan 7.

Harbor covered with slushy ice
not very hard - Wind SE & calm
at intervals. Snowed hard.

Bar. 29.500 - Ther. 27. Min. 16.5.
Max. 29.

Monday Jan 8.

Bar. 29.538 Ther. 27. Min 25.
Max. 32 Wind to SE, fresh
ice forming. Half clear. Wind later
in the day goes round to the NW
and blows most of the ice out
by 9 P.M. Weather too cold & wind too
high to do any observing.

Tuesday Jan 9.

Bar. 30.585 Ther. 27 Min 20 Max 32
Wind to NW strong. Half clear -
Ice still obstructing the harbor



Wednesday Jan 10, 72

Bar. 29.562 Ther. 26. Max 30 Min 19.
Wind shifted to SE fresh. Heavy
clouds. Ice still obstructing the
harbor.

Thursday Jan 11, 72

Bar. 29.256 Ther. 30 1/2 Min 26
Max. 30 - Wind light Easterly in
A.M., N.Westerly in P.M. Snowing
lightly at short intervals - Blush
ice forming - Work over com-
putations of angles all day &
copying notes

Friday Jan 12.

Bar. 29.298 Ther. 24 Min 18, Max. 34
Cloudy with snow Wind light W +
SW

Saturday Jan 13

Wind SW, light. Bar 29.256 Ther
25 1/2 Max 26 Min. 20

Copying notes all day - Snowing
heavily.

Mean temp at this place for Oct. 71

42.5 Bar. 29.433 Nov. 70 37.95

Bar. 29.913. for Dec. 71, 33.5, 29.640

Sunday Jan 14

Cloudy with heavy snowfall. SW wind
in A.M. P.M. N.W. strong. Bar. 29.222
Ther. 22.5 Min. 18, Max 28. Lizzie & Ben
sails about 11 A.M. for Unga to bring coal.

Monday Jan 15, 1872

Lizzie she did not sail but returned
owing to a defect in her chains
which must be remedied before
she can go to sea.

Bar. 28.930. N. fresh, with snow.

Ther. 22.5 Min. 18. Max 25.

Very high tide, rises above gauge to
9.95 on staff - Small harbor
half covered with ice again but
not very thick.

— Tuesday Jan 16 1872 —

Bar. 28.756 Ther. 26.2 Min 17.2
Max 26. Tide has been up to 10 on
staff above limit of high water.

Wind light E with heavy swell rolling
in. The small harbor frozen over
again. The low barometer of the
last two days is probably due to
a heavy blow outside which
has not reached us in here.

Cloudy - Fall heavy snow and
a large increase of ice inside the
small harbor.

— Wednesday - Jan 17. —

Bar. 28.900. Ther. 30 - Min 25 - Max 30
Wind NE - half a gale with
blinding snow - Continues all day
and evening. Cannot visit the
gauge.

Thursday Jan 18, 1872

Bar. 29.031 Ther. 20 May 21
Min. 18 Wind fresh - Westerly
with some snow - Cloudy. Ice
mostly cleared away by the wind.

Friday Jan 19

Bar. 29.154 - Ther. 19. Min. 16. May 22
Wind NW strong - Cloudy with a little
snow. Wind shifts round to the
S and finally in the evening to
SE and the temperature rises.

Saturday Jan 20

Bar. 29.808 Ther. 20 Min. 18 May 23
Clear, nearly calm, light S E air. Ice
forming again with some rapidity.
P.M. Cloudy fresh SE wind. Later
strong NE and N. Evening NNW
ice grounds hard around the
harbor & vessel. Bar rises with wind

to 29.930 Sunday Jan 21

Barom. fell last night about 8 P.M.
to 29.450, a S E gale came on with
heavy squalls of half melted snow.
The sheet of ice at the opening of
Blind Harbor comes down on
us by the run. Our chains cut
a clear passage through it and
the vessel is but slightly chafed.
The old and heavy ice 2 feet
or more thick gets adrift &
half of it passes out through

The straits into Captain's Harbor
and the other jams ashore on
the small island and on Amuk
nak to the NW of the tide gauge
At 11 P.M. the latter was all
right but the gale was in-
creasing in fury and rendered
it impossible to go to it or
I should have removed the
instruments as I feared the
ice would carry it away.

This morning my apprehen-
sions proved too well founded
for the crib was crushed &
the house overturned and
carried ashore.

I go there immediately in the
large boat and we succeed
in fishing out the self-regis-
tering gauge soaked with salt
water and seal oil from the
float box. The only injuries
it had apparently sustained
were the breaking of the pen-
dulum and hour hand of
the clock and some wrack-
ing of the woodwork. The
register of the last month
though wet was safe and
still legible. The mercurial
barometer still hung to its peg

but appeared to have sustained some injury as the mercury gave a muffled click when tipped up. The standard the monometer was safe. The Cassella and minimum thermometers were so far under water that we could not reach them in the present condition of the tide. The magnet, clock key-box of pencils and one of the weights of the tide gauge are not yet found.

We brought the gauge, thermometer and barometer aboard and cleaned the two former as well as circumstances would admit, pending a more complete restoration.

Bar. 28.840. Ther. 38.

Max 34? Min 30?

Gale from SE with heavy rain
Moderates toward evening

Barometer goes up to 29.000

Monday June 22, 1871

Bar. 28.962. Ther. 40. Early air calm
cloudy about 9 AM fresh breeze

from SE. 4th tide gauge house
towed over to & hauled up on
Capt Hennings wharf where we

16th of June 1871 the
Gregorian Calendar was
ordered for Alaska -
by Arch Bishop of S.F.?

shall set it up - Wind in-
creases to a gale in P.M.
Barom rises to 29.140

Tuesday Jan 23

Bar. 29.700 Ther. 39. Min 33. Max 39

Morning early calm & quite cloudy
with a little rain. Gale ceased
early in A.M. wind S 1. Later
fresh breeze with showers of
rain at short intervals

Cloudy & half clearing starts
P.M. go down in search of
the rock reported by Mr.
Bailey but the water is so
high that we don't find it
Evening Ther. 38. Barom. 30.100 -

Wednesday Jan 24

Morning gale from E + SE with snow.
Bar. 29.555. Ther. 38. Max 40. Min 34
later changes to rain. Moder-
ates a little in afternoon. Go
ashore & set up tide gauge but
as some weights are lost do not
set it running. Bar. 29.252
Ther. 36. Evening raining hard

Thursday Jan 25

Bar. 29.602. Ther. 31. Max 34. Min 30

Go to bench mark. To establish height
of water at new tide station. The
bench mark was 4 feet six inches
above the water at the time the signal

Bottom floor to bottom scanner 8.2
Bottom scanner to water 23.

was given, at the wharf the water stood at 8.45 or 31 inches below the bottom of the floor of the tide gauge house. Set the pencil to this point as nearly as possible to obtain the same conditions as those which existed previously at the other station. How well we have succeeded we can only tell in time.

The priest whose experience in these matters is large informs me that the tide rips in the Akutan and other passes occur about half tide sometimes twice three or even four times a day. In Unimak Pass they only occur when strong S or NW winds prevail. From Unalga Pass to Unalut is half a tide. The tidewave comes from the eastward rounds Kalakhta point passes to the west of Amakrak Id and north into Unalut Harbor.

The current in the strait between Expedition Island and the bench mark, I observed this A.M. ran at the rate of 1 foot in 2 seconds near the shore and about 1 foot in 4 seconds in the middle of the passage.

The falling tide passes south
between Samak nah S and
Unalashka and out by
the western passage.

Afternoon, telemetric observations in
small harbor. Evening - Light NW
wind. Bar. 29.500 Ther. 34, cloudy

Friday Jan 26. 1872

Bar. 29.386, Ther. 35, Max. 41, Min 34
morning, cloudy rainy, heavy squalls
from SW. Tide gauge clock has
stopped - oil her and set her -
a going again. The place where
the gauge is now is a very poor
one - subject to jars & heavy surf.
Moon wind moderates with
a little snow. P.M. clear fine with
fresh S + SW wind - Telemetric observa-
tions on Amaknak 22 all p.m. to 5 o'clock
evening S2 wind fresh, high bar. 29.350

Saturday Jan. 27

Bar. 29.538, Ther. 32, Max 42
Min 31 moderate SW. snowing heavily
in A.M. early. Go to tide gauge &
remove the clock which requires
cleaning as it will not go. Later
high wind and fully clear SW.
Later heavy snow & hail - high S
wind Bar. 29.600. Set up tide gauge
clock again, it seems to run well
Evening beautifully clear & calm
Bar rises to 29.800

Sea otters from
Unalashka
Athens

Pigalda and other islands
trading with Diulink from
Oct 1870 to Oct 1871 -
600 skins Foxes 900 -
Beats 500 -
1871-2 winter very few
foxes not more than
200 seal - bad year.

Sunday Jan 28

Bar. 29.608. Ther. 35. Max. 39.
Min. 30 S.E. gale with furious squalls
increases toward noon and the
barom. falls to 29.400. This is the
most severe that we have yet ex-
perienced here. About noon bar-
ometer to 29.350 and then it
moderates a little and the bar-
ometer rises wind calms path S half
clear.

Monday Jan. 29.

Morning cloudy with snow squalls
from S.W. later clears off nearly
with light S wind Ther. 34. Bar
29.683. Toward noon 29.900. Go to
find the ledge of rock reported by
Mr. Bailey. Find it & fix its
position. After noon thermometer
observations on Amaknak.

P.M. visit tide gauge which is
still out of order. Wind gets round
to S.E. then calm & fogging in
the small Harbor. in evening, Bar. 30.032
32-44.

Tuesday Jan 30

Bar. 29.838. Ther. 35. Max 40. Min
24. Morning strong S.E. with squalls
cloudy. Visit tide gauge clock and
find her going! work all day
over plotting. Furious southeaster
with rain in P.M. Bar. 29.662

Wednesday Jan 31

Bar. 29.858 - Ther. 41, Max 41, Min 34. Storm still continuing with torrents of rain but less wind - still SE. P.M. rain & wind diminish Bar. 29.865

Thursday, Feb. 1.

Morning Bar. 29.848 - Ther. 37 Max. 37 - Min 34 - Visit tide gauge which is still running with the face & hands of the clock removed. Find the level here apparently about one tenth of a foot lower than at the other station, but must await a calm day to rectify it. Storm from SE with torrents of rain - Work on current charts - P.M. moderates a little - go around the west side of Amaknak Island as far as Pinnacle - Find the low end of Hog Island covers the East Head of Naleekin Bay while the outline of the island is quite erroneous. The ledge off AD from AC is in line with the end of small island while from K it is off the low place between Fish Rock & AD bluff - Evening Bar - 29.850

Fail	Sund	Rain	Wind.	Snow.
111	1111	11	$\frac{11.11}{9}$	111 111111

3
4
2
6
13
28
3

Population
Thulink

151 men -
142 females -

Inayree

20 females
~~15~~ 16 men -

Makushin

~~20~~ 20 men
~~27~~ 27 women -

Kasheega

36 men
35 women

Chernoffsky

28 men
31 women

Uwaak

55 men
50 women

Sunwe

19 men
8 women

Friday - Feb. 2, 1872

Bar. 29.962. Ther. 35.5. Max 38
Min 33. SE wind high in squalls
Rainy + cloudy. P.M. more mod-
erate, rainy. Evening barom
gauge up to 30.065.

Saturday Feb. 3

30.050. Ther. 36.5 Max 37. Min 33.
Rainy. Wind ESE. P.M. attempt
thermometer obs. but unsuccessful in
my squalls of rain + wind which
has shifted to ENE. Bar. 30.050

Sunday Feb. 4

Bar. 29.802. Ther. 36. Max 37. Min 33
Wind Ely S fresh. Cloudy - rainy
+ snowing.

Monday Feb. 5

In the low tide of the 3rd I
observed that the end of the reef
out of water off Rocky Point S
was in line with Uakhta
+ the church or the next ware-
house beyond the ^{new} store of N.R.V.Co
and Spithead. The reef off
S.D. see Feb. 1. Bar. 29.520
SE strong with rain + hail.

Ther. 36. Max 37. Min 33.
Rumbling noises from Akutan
Volcano one with a slight gas
during day. Evening half
a gale SE, rain & Bar. 29.442
Wind coming more northerly

Biorka

49 men

56 women -

Akhun

52 men

47 women

Avatanak

24 men.

23 women.

Tigalda

31 men.

30 women.

Alaska

Pontasofsky

57 men

55 women

Morzhofsky

27 men.

25 women.

Belkoffsky

82 men -

109 women -

Paul Bay

60 men -

70 women -

Perigromnay

9 men -

15 women -

Tuesday Feb. 6

NE gale with rain & snow. Bar 29.300 - Cannot visit tide gauge in A.D. Gale continues all day evening. Bar. 29.322. Ther. 40. Max. 37 Min. 34

Wednesday Feb. 7.

Ther. 37. Max. 38. Min. 33. Bar. 29.322 NE gale - Cloudy - Wind a little more northerly and rain ceased. Visit tide gauge which had stopped from the rain beating in through the crannies & wetting the paper. Evening. wind in the old quarter, rain, snow, & sleet - Bar 29.330

Thursday Feb. 8

Bar. 29.438 - Ther. 38. Max 38. Min 33.5 Wind ESE fresh all day with rain & squalls. The sun breaks through for a moment once or twice.

Feb. 9. 1872

Bar. 29.732, Ther. 30. Max 29. Min 32 1/2 Half cloudy and ENE fresh - Some snow last night - Wind goes round to N. Clears. Go up to Spitzberg to take angles but wind is so high that we can do nothing - Return 4 in P.M. take telemetric observations in small harbor. Finish by 5 P.M. 7 P.M. bar. 29.550 - Wind NW moderate

71 men -
82 women -

4 men
4 women

23 men
15 women -

108 men.
116 women -

53 men -
70 women -

117 men.
107 women -

1871

941 men
972 women
27 male births
17 females -

25 deaths male
32 women -

7 deaths from pleurisy & 9 from pneumonia the others from various causes not over 4 each -

346 (1871) men & women -

Unya

Popoffsky

Korovin

St Paul Id.

St George Id.

Atka.

all islands

Atka

Saturday Feb. 10, 1872

Day perfectly clear -

Ther. 28. Min 25. Max 48. Bar. 29.852
at work on telemetric observations
about small harbor - all day
Am. Lt. NW air, Noon & P.M. SSE
Evening dead calm - ice making
in small harbor

Sunday Feb 11

Morning wind fresh E - Bar. 29.578
For the last three days, Akutan
volcano has been uttering loud
rumblings, like cannonading,
at regular intervals. Yesterday
being calm and perfectly clear
puffs of smoke & steam were
seen to rise at intervals and
appeared coincident with the
sounds. Makushin is said
to have broken out ^{last November} at a new
place, nearer the bay on the West
side of the island - Ther. 33.

Ther. 42 Min 27

1870 In July Bendel started from Kuslihim
for Nunivak and Meathly a strong
NW wind & being short of water
sailing for Unimak which they
reached in 4 or 5 days making
land in about lon 165 - beat
all day without making any
thing the day being clear. Night

thick continued beating and about
9 A.M. the fog lifted and they found
themselves off Akutan Bay. The
wind hauled a little fairer &
they proposed to stand into the
Bay but the fog lifted again
and they found themselves off
Captains Bay near Cape Kachik
ta. A dead calm prevented
their working in and in the
night the tide carried them
to the eastward as far as
the lon of Unalga. The first
stretch was performed in
24 hours - Saw voyage drifts from
Cape Newman to Hagerman in night
to deaths in 1870 - July.

Men 927

women 974

fish 47

deaths 43

% 61

Most deaths of asthma -
Pop. after 1871

112 men

107 %

P.M. snow & rain. Bar. 29.500
Wind SE

Monday Feb 12, 1892

Wind mod. SE. Bar. 29.432. Ther
36.5. Max 37.5 Min 31.5. Raining &
cloudy - P.M. Lt SE air - rain & snow

Tuesday Feb 13

Bar. 29.435. Ther. 33. Max 35. Min 31
Cloudy, some snow in early A.M.
Wind Lt. SE. Work on plotting
P.M. telemeter obs. on S.W. side of
Amaknak. Wind NE. rain & snow
in squalls. Hunt for & find third rock
off Amaknak S. Bar. 9 P.M. 29.250

Wednesday Feb 14

29.220. Ther. 28.5. Max 38. Min 26
Wind strong north. Cloudy. Rain & snow
Sch. John Bright arrives from S. F.

Thursday Feb 15

Strong N wind with rain & snow squalls
Bar. 29.435 Ther. 26.5. Max 38. Min 16
Cloudy - Remove tide gauge from wharf

Friday Feb 16

Ther. 20. Max 27. Min 18. Bar. 29.402
Strong N wind cloudy with snow squalls.
P.M. wind goes round to due West
Bar. 29.402

Saturday Feb 17

Wind N.W. Ther. 22. Max 28. Min 19
Barom. 29.398. Cloudy with
snow squalls - 11 P.M. Bar. 29.425
Wind W.N.W. Snowing hard -

Sunday Feb 18. 1872

Bar. 29.442 Ther. 18. Max 20.
Min 16. Wind strong NW. with
snowsqualls every few minutes
Night driving snow storm.

Monday Feb. 19.

Bar. 29.378 Ther. 16. Max 18
Min. 15 Wind North strong
with heavy snow storm. Cloudy.
Selenitised chain measurement
to date amount to 72,233.245 m
or 38.9 miles geographical.
Evening wind even higher in squalls
stormy. Bar. 11 P.M. 29.100 Wind W

Tuesday Feb. 20

Morning stiff N W & W wind with squalls
of snow - cloudy. Bar. 29.062 Ther. 19.
Max 20 Min. 15 4 P.M. Bar
28.900 Heavy fall of snow thick
wind. 11 P.M. Bar. 28.944 wind
moderating

Wednesday Feb. 21

Ther. 20.20 Ther. 20, Max 20, Min 17
Wind strong west, with blinding snow.
2 P.M. Wind more southerly Bar. 29.024
11 P.M. Wind W. more moderate " 29.100

Thursday Feb 22

Wind W more moderate Ther. 19 Max
22. Min 18. Bar. 29.320. Snow squalls
at intervals

Friday Feb. 23, 1892

Ther. 20. Max 26 Min 18.

Bar. 29.350 - Wind N. N. W. with
light snow fall - continuing all day

Bar. 29.200

Saturday Feb. 24

Bar. 29.125 Ther. 16. Max 18 Min 16

Strong N. N. W. wind cloudy with snow.
Archimandritoff calls attention

to the rocks in Ahutan Pass

& off Cape Kalebhta ^{5 miles} On

Tchenhoff's chart Tanaga or

the island west of it, is wrong in
longitude as the bearings do not

connect. There are several islands

in the Shumagin group which -

are not down on any chart -

also one to the east of Nagai -

Lat. 54.49.30

Low 157.36, 45 miles out of range

seen by Capt May (?)

The pass of Amukhta is 36 miles

wide on the chart of Tchenhoff

Archim. says it is 46 miles wide

The natives report a good

harbor on Iunisopochnoik 20 -

Some say there are rocks

between Boguslova & Unnak

on which the surf breaks in

windy weather, but cannot

say definitely - Nunnig says not

he has sounded close to Unnak the volcano

- Nunnig says a port harbor with the pas-
sage to it dangerous from bad
tide rips & rocks.

Sunday Feb. 25

Ther. 16. Max 26 Min 13.5. Bar. 29.330
Wind light S. Sky half cloudy -
About 9 a.m. as the tide rises
and wind freshens a stream
of ice cakes from Captain's
Harbor poured into Blinlink
Harbor through Amaknak Str.
at the rate of 4 knots an hour.
As an excellent illustration
of the currents it may be
mentioned that not a particle
of it went out by the
north entrance where the
water backed up yet there
was no eddy there and
the only clear space was a
small strip at the mouth
of the creek & thence to the
n entrance. The harbor
of Blinlink had been perfectly
free from ice but the low
temperature caused the cakes
to freeze together and at night
a very thick & strong coat of
ice covered the harbor.

Monday Feb. 26

Bar. 29.522. Ther. 16. Max 36 Min. 18.
Mod S wind. Sky nearly clear with
passing clouds. Being solidly frozen
in so as to prevent the passage of

a boat to the shore short of half
a days labor - we devote the day
to observations of equal altitudes
from the vessel. - succeeding very
well -

P.M. - clear calm - 29.624

Tuesday Feb. 27

Ther. 24, Max. 32 Min. 24
 Bar. 29.650.
 Lt. Wind SE with light snow. Small
 hester labouring. Cloudy. Later
 snow coming into snow 4 P.M.
 Bar. 29.480 - Wind 9 SE fresh

Wednesday Feb 28

Ther. 31, Min 28. Max 39
 Bar. 29.475 - Early A.M. Half
 clear with fresh E & wind. 6.30
 A.M. wind freshens, and becomes
 squally with sky over cast.
 Later rain & snow. Then wind
 goes round to N squally and
 finally to NW clearing off
 a good deal. 10 P.M. bar. 29.388
 Wind N with wet snow

Thursday Feb. 29

Wind strong North. Ther. 35 Max 55 Min 23
 Later NW. with snow & rain a little
 Bar. 29.300 Later & A.M. very strong
 northerly Bar. 29.250 -

Friday March 1

Bar. 29.354 Ther. 33. Max 33. Ice breaking up
 Very high strong NW wind. Cloudy

Saturday Mar. 2

Bar. 29.182 Ther. 31. Max 36 Min. 31
 Strong NW with driving snow
 ice gradually breaking up.
 P.M. & evening furious snowstorm Bar
 came

Working days -

	Parts of	1st days in port		
Sept	6	6	5.25	
Oct	14	31	9.00	
Nov	15	30	12.00	Mar.
Dec	10	31	6.50	7.25
Jan	4	31	2.75	
Feb.	4	27	3.00	
	<u>53</u>	<u>158</u>	<u>57.40</u>	

159

25

136

3853

11559

38.50

11750

11

23

2.75

3.00

7.25

13.00

38.50 total working weather

Bad weather making ship

Sept. 75

Oct. 5.00

Nov. 2.00

Dec 3.50

Jan 1.25

Feb 1.00

3.40

11.1

14.15

52.00

14.25

38.00

4 sundays

385

1580

41

4 sundays

1540

4.15

21

385

1260

5.3

1155

2050

1925

23

Dec

.50

.75

.50

.25

.50

.50

.50

.40

3.1

.50

.75

.50

.50

.75

1.25

1.00

.50

.50

.50

.50

1.00

1.00

1.00

1.00

1.00

Sunday Mar. 3. 72

Bar. 29.498. Ther 29 Max 29 Min 25
Cloudy, fresh NW with half melted
snow.

Monday Mar. 4.

Ther. 22. Max 25 Min 20 Bar. 29.370
Cloudy very strong NW wind. more
moderate with snow toward evening
Bar 10 P.M. 29.220

Tuesday Mar. 5.

Cloudy strong NW with light snow
Ther. 27. Max 32 Min 27 Bar. 29.074
P.M. wind W. Bar. 10 P.M. 29.050

Wednesday Mar. 6.

Hot cloudy. light ESE wind. Ther. 20
Max 42 Min 20 Bar. 29.070
8.30. P.M. Bar. 28.800 Wind E
foggy. spend afternoon taking angle
from ΔD . Evening wind shifting from ESE to NW

Thursday Mar. 7.

Morning cloudy. fresh NW wind, Ther. 32.
Max 42 Min 30 a little snow falls.
Bar. 28.600. Wind shifts from NW to
SW all day. 10 P.M. wind light SW
clear, Bar. 28.775

Friday Mar. 8.

Cloudy, snowing lightly at intervals
Wind SW to S moderate. Ther. 36
Max 42 Min 36 Bar. 28.900
10. P.M. wind S by E moderate, clear.
Bar. 29.075

106

52

146

130

24

153

8

38

707 Western

293

36

47

71

49

105

27

105

99

47

61

480

46

940 middle al

214

123

337 Pint

124

346

470

West

337

707

940

2454

Saturday Mar 9, 1892

Ther. 35. Max. 49. Min 32. Wind variable, southerly, very light with occasional fresh puffs. Sky half clear. Spend day taking angles from S. B, A + K. Evening wind light SE. with one snow squall 10 P.M. Clear. Bar. A.M. 29.184. 10 P.M. 29.420

Sunday Mar. 11

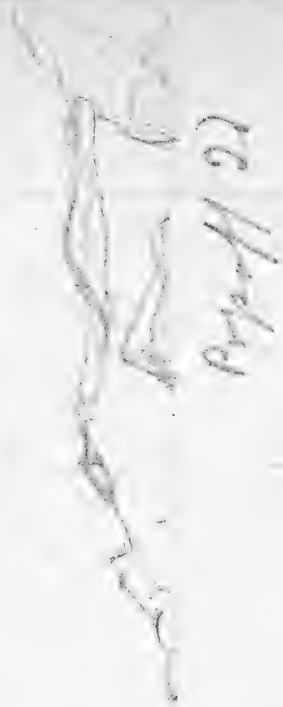
Cloudy - fresh SE wind. Ther. 32. Max 35. Min 32. Bar. 29.488. Storm brewing apparently. 4 P.M. Heavy south east stormy with rain comes in & lasts 3 P.M. evening - ice in harbor breaks up. Bar. 29.300

Monday Mar. 11

Storm continuing but moderating. Bar. 29.246. Ther. 38. Max 38. Min 35. Wind squally SE. Heavy rain. Later less wind with showers of rain or hail at intervals. P.M. & evening 10 P.M. Bar. 29.310 Wind S by E

Tuesday Mar. 12

Cloudy with passing showers. Ther. 41. Min 37. Max 46. Min 37. Bar. 29.246. Wind S with occasional alternating fair. Work on telegraph. Ice floating about Amundsen. 9 P.M. Bar 29.240



Propoff 21

e e



andronica

Kanwin.

Shimels in of Propoffsky
From in of 9 and Chaga half mile

Wednesday Mar 13, 72

Ther. 35 Max 38 Min 32 Bar. 29.940
Cloudy, squally, threatening rain - wind fresh
SE - Blows very hard. Very late in the
morn. on SE side of the bay but
are driven in by snowstorm -
P.M. wind goes to NE & back to
SE with rain. 10 P.M. Bar. 29.840

Thursday Mar 14

Ther. 35 Max 40 Min 36 Bar. 29.960
Cloudy, calm, wind squally SE -
In 1880 a whaling vessel stranded
in the ice off Cape St. Lawrence
drifted ashore - in summer months
about the ice was present out of the
batter - says Chapman - also in 1871 late
in May ice broke up off Plover Bay
leaving the sea navigable there and
by the middle of June any vessel might
have sailed there had she been able
to get through the floe ice to the S.N.
The ice opens sooner on the W side
of St Lawrence Id than on the E & SE
Bar. 29.850

Friday Mar 15

Ther. 35 Max 45 Min 35 Bar. 29.800
Wind 3 fresh, passing clouds with
snowflakes occasionally but light &
short. Work for ice on SE side of the
bay all day - P.M. cloudy with SE
8 P.M. Bar. 29.810

Saturday Mar. 16. 1872

Ther. 36. Max 49 Min 30 Bar. 29.720

Fair, with passing clouds. Wind N.E.

165 = 9.5 on staff. Then level center of telescope is 6 ft. 1 1/2 in above 9.5

541 E. 21 1/2 S. 17 1/2 is marked by middle wire on bench - Theodolite under at this station is 16 1/2 in above it

Have station 162 & 163 in 565 E

2 76 D - on first corner of old house

3 100 ft from 162 & 163 in 565 E

4 100 ft from 162 & 163 in 565 E

5 100 ft from 162 & 163 in 565 E

100 ft from 162 & 163 in 565 E

100 ft from 162 & 163 in 565 E

100 ft from 162 & 163 in 565 E

100 ft from 162 & 163 in 565 E

but we are prevented from obtaining the rest by clouds - day partly fair - with one heavy snow squall at noon. Passing clouds in P.M. & A.M. closes cloudy - 9 P.M. bar 29.720 wind SE

6 ft 1 1/4 in

1 1 3/4 in

0.9 1/2 in

8.2 - 1/2 = 8.1 1/2

15.735

1.175

9.970

4.650

8.225

6.24.0 above sea

15.436

6.240

21.50.6

4.7

4.8 1/2

17.5 1/4

6 1/2

16.10 above 9.5

9.06

26.04

Bench mark on church is above 9 of staff 26 ft. 04 in
Same is above our bench mark on rock Blindfold Harbor 13 ft. 04 in

Height of church mark above 6 ft 1/2 on staff approximately = 15 ft. 416 by water level less reliable than the other

Sunday Mar. 17

Cloudy Ther. 36. Mar. 47 Min 34
Wind Lt. SE - Bar. 29.772
Wind later goes to NW strong
and by evening to SW squally
Bar. 10. Pull. 27.640

Monday Mar. 18

Ther. 34. Mar. 37 Min 20. Cloudy
In the wind Lt. E. freshens toward
noon. Pull. SE squally by day
speed day finishing squally in
small harbor. Bar. 29.720
Light rain from 3:30 to 5:30

Tuesday Mar. 19

Ther. 28. Mar. 59 Min 26. Bar. 29.75
Clear with SE wind. Good all
day. P.M. on observations of
equal altitudes for time. Day
fine and moderating early
Night in P.M. cloudy calm or
light SE wind. 11 P.M. Bar. 29.26
Heavy rain.

Wednesday Mar. 20

Ther. 31. Mar. 44 Min 34. Bar. 29.84
Cloudy. rain squally calm. P.M.
cloudy with light showers. 29.87
Took up thermometer buried Feb. 9
and find a Max Min temp
of 37° for the earth during
the intervening period. 2½
feet below the surface.

Monday May 21, 1892

May 23 - Thurs. May 31 - Sat
 29.450 - Morning, cloudy, wind
 very light, variable - 10 - 11
 clear - day very fine. Clear
 & calm - obs. of sun for time
 & getting ready for sea!

Monday Mar. 22/1911

Morning Ther. 34, Max 38 Min 32 Bar 28.942
Raining & snowing hard. Wind squally &
Later, moderates a little but continues
squally all day - P.M. bar. 28.800 Wind SE
hard clear

Saturday, Mar. 23

[illegible]

Sunday Mar 24

Foggy cloudy - light N.E. fresh breeze
37. 39 42. Min 37. Bar. 29.40
See the peaks of Blanche in the
distance - The current takes
us some 25 miles to the Swan
Pill. Clear fine. Evening cold
Bar. 29.40 Sea rough.

Monday Mar 25

Bar. rose to 29.40. Foggy
37. 39 32. Gale from N.E. with
high sea. Move to all
day & night.

Tuesday Mar 26

Clear early in am. Light N.E. breeze
at 10 am. Bar. 29.50. Then 40.
42. 40. About noon nearly a
calm - almost clear - sea goes
down a good deal.

Wednesday Mar 27

1. Pill lost sight. Light air spring
is still continues. Then 54. 40.
Bar. 29.30. Cloudy. Fine -
C.M. Fresh breeze from N.E. at
12 midlight 40. 40.

Thursday Mar 28

N.E. gale, howl all day & night.
Wells all water under deck. Bar 29.20
Night wind N.E.

Friday Mar 29

Under single reefs fresh N.E. wind

29030. Then we start on a bit
windy but not much to speak of
sailing. When about 10 miles off
moving on to the blue masses of a
beach. About 2 P.M. sighted
in 11.00 & start towards it. but
see little until 3.30 P.M. when it
clears & we see two small islands
one a top of peaks. ~~But~~
cannot identify them
are taking these sets of photos
find that we have been swept
by the current more than sixty
miles to the westward. Still, just
clear, about 11.00 when we see
two sticks at 12.00 up to 7 P.M.
P.M. in the dark and
sight Unga about 2 a.m. of

Saturday Mar. 30th.

and shortly after make Nagai.
Boat until 4.30 A.M. and then
stand in, past Delaroff Harbor
west of Popoffsky through the nar-
row passage between that island
and Unga. In the straits after
passing the sand spit, the channel
is in a direct line from the end
of the latter to the outer end
of the small island between
Popoffsky & Unga. There is a

reef on each side; after passing
the point on which the western
reef is situated, it may be well
to shear a little to the westward
still steering for the small is-
lands western end. $5\frac{1}{2}$ fms
are the shoalest. There is a
small harbor formed by
the sand spit.

Passed through and stood into
Coal Harbor finding the reefs
laid down on the chart as
weedy shoals - out of water
about a foot. Stood into
new Harbor and anchor there
Came in about 11 A.M. and
anchor about 2 P.M.

Day fine cloudy with squalls
of snow & high southerly wind.

Later stormy - Bar. 29.850
Ther. 40 to 44.

Sunday Mar. 31, 1872

Cloudy, strong southerly wind
Bar. 29.200 - Ther 42 Max 42
Min. 40

Held a consultation with the
officers and ~~decide~~ to give
up the proposed trip to the
westward - on account of
the defects of the vessel in
working and the great risk

which would thereby be incurred - Decide to do as much as we can in Unalakleet and come to the Shumagins to spend the rest of the season.

P.M. Windy & cloudy. Bar. same.

Monday April 1. 1872

Bar. 28.610. Ther. 36 Max 38

Min. 34

Heavy NE gale. with half melted snow. P.M. moderates a little but Bar. goes down to 28.450

Tuesday April 2

Sun. 28.624. Ther. 36. Max 46. Min 22. Light NW wind cloudy. P.M. with faint snow squalls. All hands busy getting out coal.

Bar. 28.450 Wednesday April 3

360 fathoms. 70 fathoms. Hauling for 1/2 week. Under observation for ship and lat. 20° 15' N. Long. 150° 15' W. Bar. 28.450. Ther. 32. 45. 32. P.M. 28.450. Ther. 32. 45. 32. Tide high in A.M. 8.30. Again low. Low 4.45 P.M. Below highest high water mark. In 10 fms 7 ft deep. Below low of water. From first party. Bar. 28.450. Ther. 32. 45. 32. In ship circle. Both a down

Working days in Mar

.50

1.00

.50

.25

1.00

1.00

1.00

1.00

1.00

Squall interrupts work on
April all day, dry, windy NW

Thursday April 4

Calvin reports a heavy shower
from E to S. Much accounts
for our low temperature.

Bar. 29.640. Ther. 36. Rain 42
Wind SE strong & rainy. Wind
from S to SE. Temp. falling
at a fine deep last night to 37.
P.M. rainy. High SE wind
Bar. 9 P.M. 29.282

Friday April 5

Heavy Southwesterly blowing
all day. Bar. 29.400. Ther. 40.
40.34. all hands mining coal
Rain and hail in squalls

Saturday April 6

Heavy Southwester all day with
hail & rain squalls. Ther. 34.
35.32 Bar. 29.920. Evening
wind shifts to NW. Bar. 30.420
Shipping coal.

Sunday April 7

Strong W wind all day but
gale. Ther. 32. 36. 32. Bar. 30.
334. Cloudy -

Patches of sun in P.M.

Monday April 8

Bar. ~~30~~ 30.254. Ther. 38. 42. 36.
Cloudy. wind light SW. Freshen in

Bar. 30.254

Temperature

Bar. 30.254

the P.M. Magnetic observations
on Round Island A.M. & P.M.

Tuesday April 9, 1872

Morning moderate, take in some
chain when wind freshens &
we conclude not to go to
sea. Wind SW fresh to very
strong - cloudy & clear at short
intervals - Ther. 41. 45. 32 -

Bar. 30.000 - P.M. heavy snow
squalls lasting an hour & a half
followed by clear & calm weather
& then cloudy - 9 P.M. Barometer
at 30.050

Wednesday April 10

Wind fresh SSW to NW. Temp.
40. 41. 39. Bar. A.M. 30.150. Cloudy
We are obliged to wait for a
fair wind as this is right in
our teeth. P.M. bar. 30.120

Thursday April 11

Wind from SW to S squally all
day. Temp. 40. 42. 38. Bar. 30.100
Evening breezes up with heavy squalls
& rain from SSE. Bar goes down
to 29.864 at 9 P.M.

Friday April 12

Heavy SW wind still blowing
Ther. 38. 39. 35. Bar. 29.750.
Cloudy & sunshine by turns
with rain & snow squalls

Saturday, April 13.
Morning moderate wind SSW. At
noon breezes up from South
P. M. Strong SSE, gale by
9 P. M. Ther. 40. 42. 38.
Bar. 30.122. 9 P. M. Bar.
29.864.

Sunday April 14
Cloudy, early still. Nearly calm
then breezes up as it has done
every day for a week, into
half a gale from S, with
squalls of rain or snow. Ther.
38. 42. 38. Bar. 29.802. 9 P. M.
Bar. 29.660.

Monday April 15.
Morning Cloudy, high SSW wind
Ther. 40. 46. 39. Bar. 29.608. Spent
day running coast line of New
Harbor with telemeter. Bar. 9 P. M.
29.486. Wind fresh from SSE
One heavy snow squall in P. M.

Tuesday April 16.
Raining & snowy all day. Still
wind light. Later NE P. M.
calm. Ther. 37. 37. 35. Bar.
A. M. 29.234. 9 P. M. 28.920.

Wednesday Apr. 17
Strong N wind. Sail from
Coal Harbor at 8 A. M. &
go around Unga by the

New Harbor.

western passage instead of
beating through the other way
Ther. 35. 37. 31. Bar. 29.020
On leaving the ~~E~~ side of Unga
a heavy NW gale comes on
and after struggling against
it for some time we are
obliged to heave to after
shipping one sea which
nearly fills her forward
stowage, & soon later on
comes out but delays us
very to till midnight.

Thursday April 18

Morning Ther. 35. 37. 32 Bar
29.140. Wind strong NW
judding along under reefed sails
Cloudy - P.M. wind lighter abt
W. Evening very light - Bar. 29.220

Friday April 19

Morning pleasant, wind light - SW
half cloudy. Ther. 34. 37. 30. Bar. 29.140
Noon squally with rain - P.M.
half cloudy squally - Bar. 29.210

Saturday April 20

Morning cloudy. Kailash 2000 ft.
Ther. 37. 37. 32 Bar. 29.260
Afternoon squally but
windy - a little rain in P.M.
Bar. 29.300

Sunday April 21, 1872

Ther. 41. 44. 35. Bar. 29.500 - Half cloudy, wind moderate, west. After sundown stand on a path fair course toward the Abasco point.

Monday April 22

Ther. 37. 42. 34. Bar. 29.505. S.W. 1/2 mile off West Point. E. of half west of point. S. E. and S. W. of point. S. W. 1/2 mile off. Wind light S.W. 1/2 mile. P.M. off Cape. 2 days dead calm.

Geological off Asplund Bay Point 1/2

bearing S 1/2 W

Exposed 1/2 mile to SW

& about 1/2 mile S

Sound in 54 fms soft bottom.

Full moon 1/2 mile at 1/2 mile 25 38
26 36

Surface water 1/2 mile, 13571

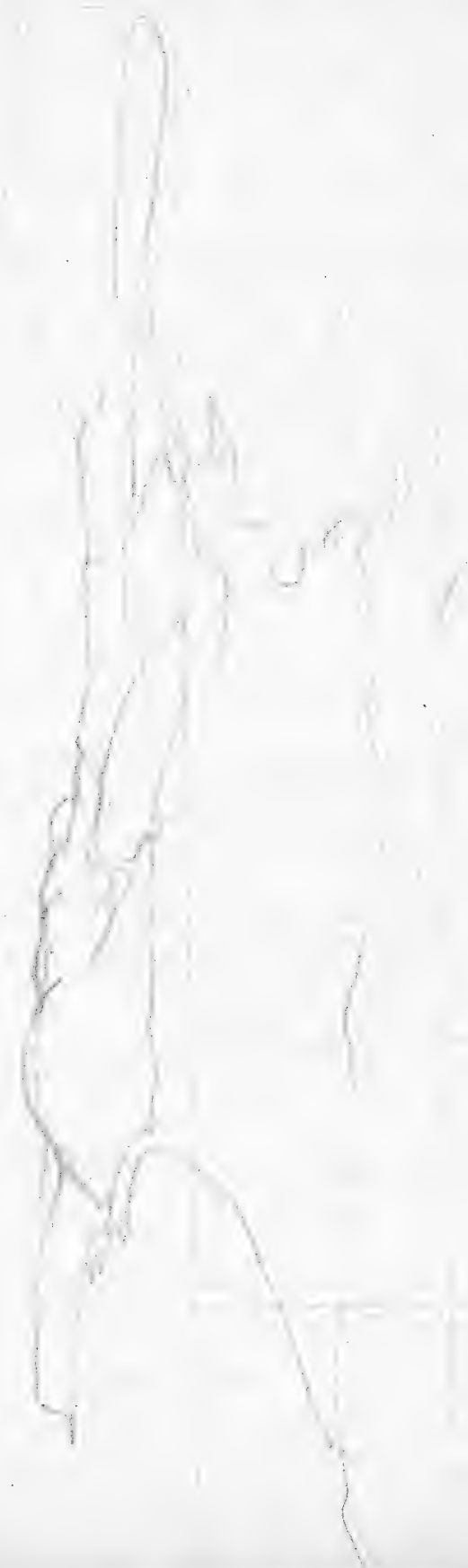
Surface water 1/2 mile, 13571

Surface water 1/2 mile, 13571

Evening - S.E. wind quite fresh but no wind north. about 11. P.M.

Tuesday April 23

SE storm with rain. Bar. 29.398
Ther. 43. 33. 28 P.M. SW with very heavy squalls. Bar. 29.300



Middle Bay

Wednesday Apr. 24

Ther. 41, 42, 38 - Bar. 29.664

Cloudy with high squalls
V. much improved from
Calmer, Bar. 29.500 - 10 P.M.
Bar. 29.500 high SE wind
rain & squalls.

Thursday Apr. 25

Ther. 41-47, 34 - Bar. 29.626

more moderate but very similar
air weather, cloudy with strong
squalls at intervals from 5 A.M.

Friday April 26

Ther. 49, 46, 36 - Bar. 29.628

Weather similar to yesterday but
evening more moderate

Saturday April 27

Ther. 37, 49, 34 - Bar. 29.772

Cloudy calm - snowing lightly -

Sunday, April 28

Ther. 34, 47, 32 - Bar. 29.740

Day half cloudy - calm & fine
wind in P.M. light SE. P.M. Bar. 29.784

Monday, April 29

Ther. 28, 47, 33 - Bar. 29.784

Clear calm fine, a little thin
ice formed last night in small
harbor - Observations for time
A.M. & P.M. Televised observa-
tions on Blinlok reef. P.M.
V. cloudy with N.W. 4.13 A.M. 29.852



Tuesday April 30th 1872

Ther. 36. 38. 34. Bar. 29.700
Cloudy, some light snow. Wind fresh
NNW. Later heavy snow. P.M.
Bar. 30.000.

Wednesday May 1, 1872

Ther. 35. 42. 32. Bar. 30.000
Cloudy, snowing. Wind light W.
Snows all day. P.M. Bar. 29.165

Thursday May 2

Ther. 41. 42. 32. Bar. 29.784
Cloudy, snowing lightly at intervals.
Calm. P.M. wind fresh SE.
Bar. falling, more snow. Evening
SE very strong with melting snow.
Bar. 29.624.

Friday May 3

Ther. 44. 44. 35. Cloudy, some
rain. Bar. 29.210. SE wind fresh
with calm intervals. Observation
on the tidal current setting in through
Sarnaknek straits develop the
fact that it runs at about the
rate of 3 knots an hour. The
float passed over a line 270 feet
long in one minute when the
flood tide was coming in with
its greatest rapidity.

Capt. Henning in the Hutchinson
in 1869 bound for St Michael
in June encountered field ice

in the latitude of Cape Romangoff
and about half way between
the main land and the islands.
It was in a band about 100
miles broad extending east &
west to St Lawrence & Cape
Romangoff. At the same
time Captain Smith went
to the westward of St. Law-
rence and found all clear
of ice. Capt Hannif after
passing through this ice
which was very soft &
rotten found clear water
to the north of it. P.M. Bar
29.330 Wind light S. half clear

Saturday May 4

Th. 34. 54. 42. Bar. 29.450. Wind
calm. Later S. 1/2 SE, light.

Capt Miles informs me that the south-
ern entrance of Iqroobah pass though
narrow is very deep, at least 50 fms
without bottom. a few rocks close
in to the east head. The tides run
very swiftly in this passage, the
flood tide from the south is always
more powerful than the reverse.
The northern entrance is very
shoal, the channel is close to
the Unimak side and is often
changed or even closed for a

short time by the drifting sand
which forms the bottom, when
heavy winters occur. There is
about one fathom water in it
the sloop Dates Humes drawing
4 feet 2 in has gone through. &
the Liggins has drawing 3 feet 6 in -
He did not think the Humboldt
drawing eight feet could get
through. The tides resemble
those of Malakka. There are
no tide marks. P.M. Bar. 29.6 in
Visit and repair signals.

Sunday May 5

Ther. 42.52. 38. 40. 45. Wind
variable with gusts all
day - P.M. Bar. 29.56

Monday May 6

Ther. 38. 46. 41. Bar. 29.144. Wind
SE - heavy rain & squalls all day
a little more moderate in P.M. Bar. 29.162

Tuesday May 7

Ther. 36. 48. 41. Bar. 29.164

Half cloudy calm with showers
in early am later half clear with
SW puffs & squalls at intervals.
Spent the whole day sounding
in Blink Harbor and its approaches.

Wednesday May 8

Bar. 29.522. Ther. 49. 48. 36. Wind
Squally southwest with rain. P.M.

rain ceases and I go out and
repair various signals which have
suffered from the weather. Evening
SE wind fresh, with rain. 29.450

Thursday May 9

Ther. 46. 53. 38. Bar. 29. 440.

Cloudy with a little rain, some
finish soundings in small harbor
P.M. take the observations on the
reef near D and on the east side
of South Amaknak Strait
at 12 begin to rain about 2.30

P.M. but we continue at work

til 4.30. 9.12. fine light NW. Bar

9. P.M. 29.425.

Friday May 10

Ther. 26. 49. 43. Bar. 29. 50

Cloudy foggy with fine rain, wind
light NW. Rain continues all
day - P.M. wind W. lt. 9 P.M. Bar 29.720

Saturday May 11

Ther. 36. 52. 41 - Bar. 29. 820

A.M. cloudy light S wind. P.M. half
clear, fresh SE wind. Telerimeter
observations on Unalakshia and
S Amaknak rocks, occupy the
day. 9. P.M. bar. 29. 870

Sunday May 12

ESE storm with snow rain heavy squalls
Ther. 37. 42. 35. Bar. 29. 270. Wind moder-
ates, and finally dead calm cloudy 29.950

Monday May 13, 77

Ther. 42. 45. 36. Bar. 29.554. Wind
NW fresh with rain. Toward
noon very high squalls with
heavy rain and snow. P.M.
raining, more moderate wind SW.
Bar. 9 P.M. 29.460.

Tuesday May 14

Ther. 35. 40. 32. Bar. 29.468 Stormy
snowing furiously. Wind W. afternoon
change to SW. Evening with high
cloudy. Bar. 29.760.

Wednesday May 15

Ther. 45. 45. 53. Bar. 29.624. Clear
high west wind. 50% clouds P.M.
a little more squalls but wind still
high. Maprota observations for
top. Hinkley. Bar. 9 P.M. 29.500.

Thursday May 16

Ther. 38. 52. 33. Bar. 29.040. Cloudy, strong
North wind. All work on ice at
Anchorage Island with ice water all
day. Moderate toward evening
Bar. 29.980.

Friday May 17

A.M. Ther. 39. 47. 35. Bar. 29.788
Cloudy light snow falling at inter-
vals, with light N.W. wind.

Saturday May 18

Ther. 37. 45. 40. Bar. 29.815. Yakomple
from SA 1 all times well down in by snow

The Cassin's Auklet.

Wings. Length, 200 by him in Jan. 1878. 50 1/2
Tarsus 58. 15 1/2
differs from the Cassin's Auklet in position

Wind N. with snow squalls all day. Cloudy. Bar. 9 P.M. 29.820

Sunday May 19, 1872

Ther. 37-42.35. Bar. 29.840. Cloudy strong NNE wind. P.M. bar. 29.754

Copy from Capt Mays log
Left Port June 25. 1869. 54.21. Shot
mohawk Id. bore NNE by compass
dist 25 miles - Course NE - Long
169.21.

June 26 -

8.30 P.M. made two rocks above
water bearing N.W. by compass dist
about 5 miles - ~~(5.5)~~ - Lat. about
55.15 + Long about 158.50 - Began
fresh breeze from SW. later 6 P.M.
wind moderate, hazy - (running
an average of 5 knots) changed course
onto SE - vessel ship Caesar Wilch
Rocks appear doubtful

Day squally with snow train
at intervals

Monday May 20

Ther. 42.45.35. Bar. 29.748. Cloudy &
snowsqualls with northerly wind in
A.M. P.M. more moderate - angles
from Albatross station & running
shore line to Hillwater - interrupted
by snow - Bar. P.M. 29.840.

Tuesday May 21

Ther. 39.44.34. Bar. 29.860 Cloudy

light W. wind. Start for North
Head signal and finish the miles
from that point I run the
shoreline of half of Indian
Bay. Weather rather quiet
fresh west wind but little sea
and constant clouds of heavy
fog keep coming up withing
every thing so that we have
to stop observing at last's
P.M. 29.742

Wednesday May 22

Cloudy, light W wind heavy soft rain
pouring down steadily. Ther. 41.46.37
Bar. 29.510 - P.M. Bar. 29.498 -

Thursday May 23

Wind shifts to East with a fresh
puffy wind, heavy steady rain
& fog. Ther. 37.46.42, Bar. 29.562
9 P.M. Bar. 29.664 -

Friday May 24

Wind light ESE all day - with
a constant succession of light show-
ers but no fog. Ther. 37.52.46 -
Bar. 29.720, 9 P.M. Bar. 29.886

Saturday May 25

Ther 43.49.39. Bar. 29.888. Clear
calm, first noon light N air later
fresh NW. Work all day running
shoreline on north side of Ulakhta
head and in Indian Bay. Evening
bar. 9 P.M. 29.946 - Clear.

Sunday May 26, 1872

Ther. 46, 58, 37. Bar. 29.900 - sky
cloudy - calm. Noon clear light
northw. wind - changes in P.M.
to W. & SW - rather fresh - half
cloudy. Bar. 3 P.M. 29.812
Obs. for time in P.M.

Monday May 27

Ther. 48, 56, 40. Bar. 29.934. Clear
Obs. for time. Light N wind, fresh
at intervals. A fog bank in
the north but not a cloud
all day. Topographical
work with theodolite on
Middle Amaknak & the
P.M. obs. for time take up the
day. Bar. P.M. 29.918 - Clear
calm.

Tuesday May 28

Ther. 38, 44, 60. Bar. 29.878. Clear
light N. air with occasional fresh
puffs. Later in day a few light
clouds and wind shifts more to
the eastward. Angles from Still
water station in A.M. completed
in P.M. from Key Stone station
also completed. Evening light
S & breeze - nearly clear. Bar 29.81.

Wednesday May 29

Cloudy, rainy wind E. Ther. 44
54 42. Bar. 29.724. P.M. not

Riebell -

Thermometers - Tide book -
Rain gauge. Receipt.
Raymond's maps of Yukon.
Smith
Time chart.

so rainy, squally, wind shifts to N
with heavy black clouds. Plotting
all day. P. M. Bar. 29.722

Thursday May 30

Ther. 43. 48. 41. Bar. 29.722

Cloudy, some rain, strong NW
wind squally, shifting to
WNW at night. Bar 9 P.M.
29.880. Plotting all day

Friday May 31

Ther. 43. 47. 41. Bar. 29.825. Cloudy
with squally NW wind and occa-
sional rain squalls. P. M. run
the shoreline of Amaknak from
Ukukhta to Round Top. 9 P.M.
Bar. 29.864

Open new notebook

Work to be done

Copy notes 1st book ✓ Done ✓

4 2nd " ✓ " ✓

Copy angles in book ✓ ✓

+ abstracts ✓ ✓

Sever. signals make up ✓

Δ Computations. ✓ Done ✓

Outside tidal obs. ✓

Plotting temps & ✓

Barometer ✓

Plotting currents ✓

Copy Unga obs in 4th ✓

Plotting angles ✓

Copy tel. obs. ✓

Sketches headlands. ✓

Tidal obs. ✓

Shiluk samples ✓

Magnetic obs. ✓

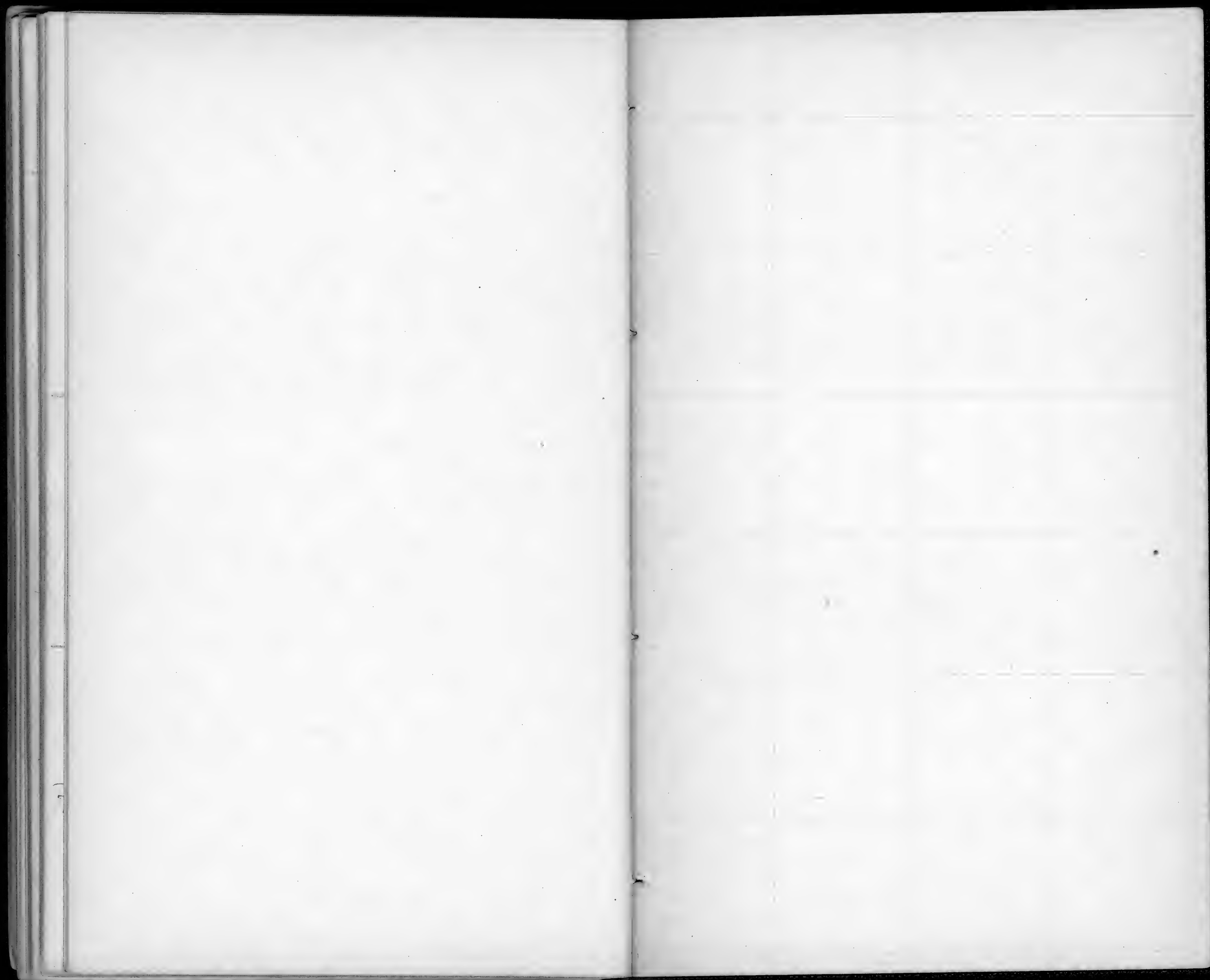
Cut in benchmark. ✓

Copy tidal table. ✓

Plot rem. of Shiluk chart. ✓

Write out ethnol. ✓

Soundings. Copy ✓



Copying

Angles. copied to Dec. ^{max} with abstracts do.
Notes " " Jan. - Feb. - Mar.
Meteorology in book to Mar. & in sheets
Current obs. in comp. book. in 4th copy for notes
in rough plotting in chart.
Sides (Registers overhauled to Jan. ^{max} ~~complete~~)
Water temp. Copied into 4th book & in log

○ Going over charts with Hennig.

○ Meteorological data from priest.

Topographical sketches.

Copying sketches of headlands
✓ Jan. 16.

✓ ~~Deep sea leads to be got ready.~~

✓ ~~Other dredge to be got ready.~~

○ ✓ Packing up remainder of collections.

✓ Anglos. Prepare book for new ones.

✓ Telemetric obs. + soundings
small harbor.

○ See Gregorie about Aleut names.

Outside tidal observations. ✓ ○

Erecting new signals. Eider vill

~~Remove small base.~~

✓ Correlate bench marks + have
my own cut in. ○

1 ? Current observations in mouth
of small harbor. ○

○ Repair barometer

Magnetic observations

Work to be done
 notes to be copied to date
 to Dec 31. To Feb 9 Mar 1.

✓ Descriptions of signals -
 to Jan 201

✓ Computations of triangles -
 ✓ Dec. 31.

✓ Computation of tidal register
 Oct. Nov. Dec. Jan

Plotting temperatures & barometer
 Rough notes to Dec. 31. cont.

✓ Plotting current chart ✓
 Rough notes of upvoyage ✓

Plotting ordinates of currents -
 ✓ Rough notes of upvoyage.

○ ✓ Plotting angles & topography.

○ ✓ Overhauling & signing tidal
 register -
 overhauled to Dec. 21.

Pay rolls ✓ to March 31 st. ✓

60
 1 3 5 7 9 594
 2 4 6 8 57 8 651
 17
 16 27 42 594
 800 180 160 43.4
 229447 174 300
 999996 273.4
 444 36
 160 434 320 29 140
 114 734 11) 434 39 1/2
 36 50 30 48 1/2
 94 88 6
 11) 584 52 30) 99 323
 55 34 33 00 70 651
 33 33 60 646
 42 44 5 12 51 11 21 17
 99 16 40 12 51 11 21 17
 107 24 40 31 51 11 21 17
 28 23 20 9 51 11 21 17
 337 43 20 240 1532 1702
 1532 1702
 1702
 Rufe 4.70
 George 1.50
 Rufe 1.50 Bindel
 46



24
80
1920

130
24
520
260
3120



594
160
434

2) 160 17
9
40
68

93
13354
13847

2) 30 21
64
7
(4) 234
17

80
20
42
840

00309
94961
1,90270
59763
546

39,70
3822
7200
346



